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The answer to a question  
of time and money

PHENYL ACETALDEHYDE PURE

Ordinary phenyl acetaldehyde loses approximately 30 per cent of its strength the first month, 20 per cent the second month and so on until it loses its odor value entirely through polymerization.

Givaudan research chemists have recently developed a process by which we are now producing Phenyl Acetaldehyde that polymerizes only at the rate of about 3 PER CENT PER MONTH during the first six months after its manufacture.

This means money saved for you...for time is this product's worst enemy. Use Givaudan's product and you will not only be able to keep it longer but you can also be certain that it's fresher, since Givaudan is America's largest producer of this material and consequently maintains production according to the demand, shipping out each lot as it is made, before polymerization starts.

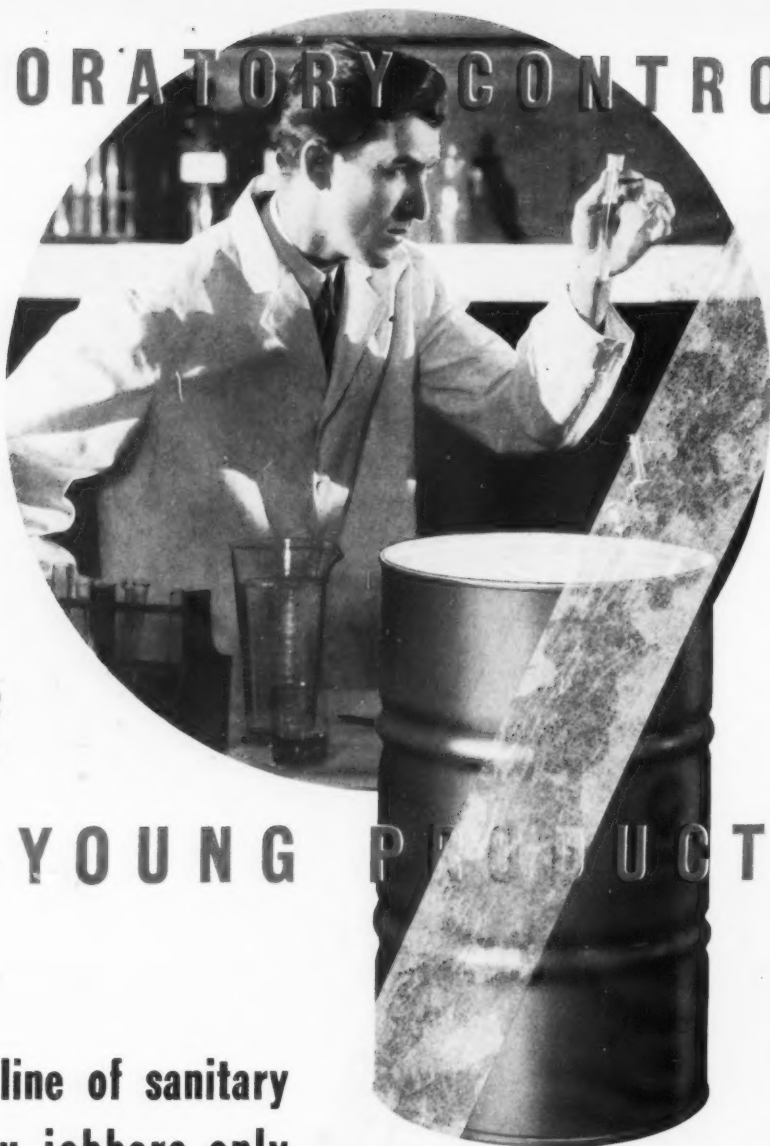
If freshness and longer life are important to you in Phenyl Acetaldehyde - and of course they are! - make Givaudan-Delawanna your source of supply.

*Givaudan-Delawanna Inc.*  
80 FIFTH AVENUE, NEW YORK, N. Y.

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SOAPS  
INSECTICIDES  
DISINFECTANTS  
CHEMICAL SPECIALTIES  
SANITARY SUPPLIES  
POLISHES  
CLEANERS

**LABORATORY CONTROL**



**assures  
uniform  
quality of**

**DAVIES-YOUNG PRODUCTS**

**NOW a complete line of sanitary  
supplies sold thru jobbers only**

**DISINFECTANTS • INSECTICIDES • DEO-  
DORANT BLOCKS • POLISHES • WAXES •  
GYM FINISH • FLOOR SEAL • OIL SOAPS  
LIQUID SOAPS • COCONUT BASE SOAPS**

**THE DAVIES-YOUNG SOAP CO.  
DAYTON, OHIO**





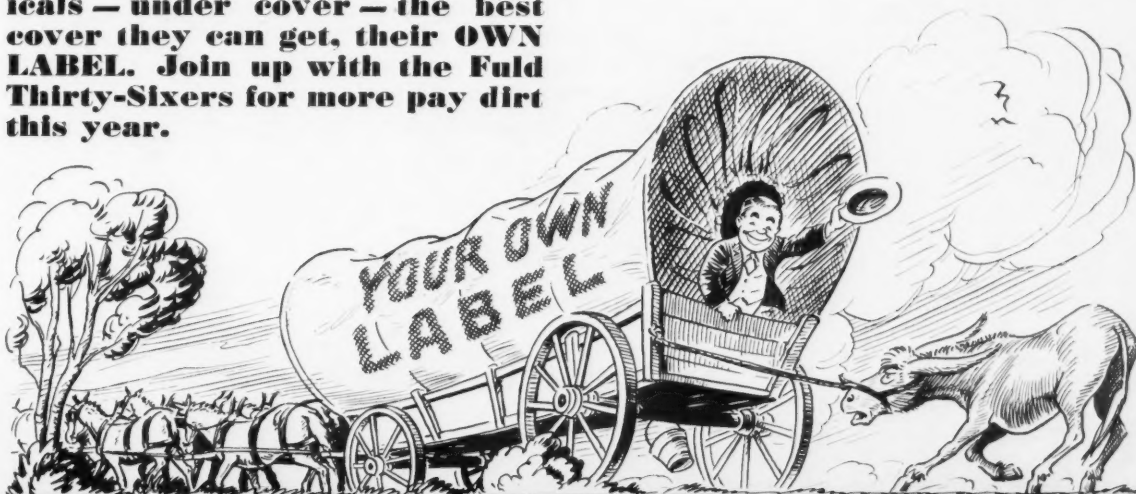
**NEW VAPACK  
DEODORIZING  
UNIT**

Featuring large size Vitozone processed deodorant blocks in attractive self-hanging containers which help you sell blocks. In 24-oz. and smaller.

**When the big strikes of 1936 come through, Fuld Thirty-Sixers won't be far away. They're heading hard at it now—along with the fastest moving line of sanitary chemicals—under cover—the best cover they can get, their OWN LABEL. Join up with the Fuld Thirty-Sixers for more pay dirt this year.**

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**. . . TO 1936  
PAY DIRT**



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Liquid Scrubbing Compound  
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Soap Dispensers

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Forma Chloro Sprays  
Theatre Sprays  
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Shampoos  
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All Percentage Oil Soaps  
Jelly Soaps

### DISINFECTANTS

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Coal Tar  
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Cresol Compounds  
Chlorine  
Powdered Chlorine

### POLISHES

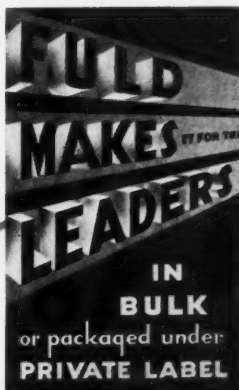
Count 1234567  
Metal Polishes  
(Liquid, Paste & Powdered)  
Auto Polish  
Furniture Cream  
Furniture Polish  
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Silver Pastes and Creams

### PLUMBING SPECIALTIES

Drain Pipe Cleaners  
Liquid & Powdered Bowl  
Cleaners  
Tile & Enamel Cleaners  
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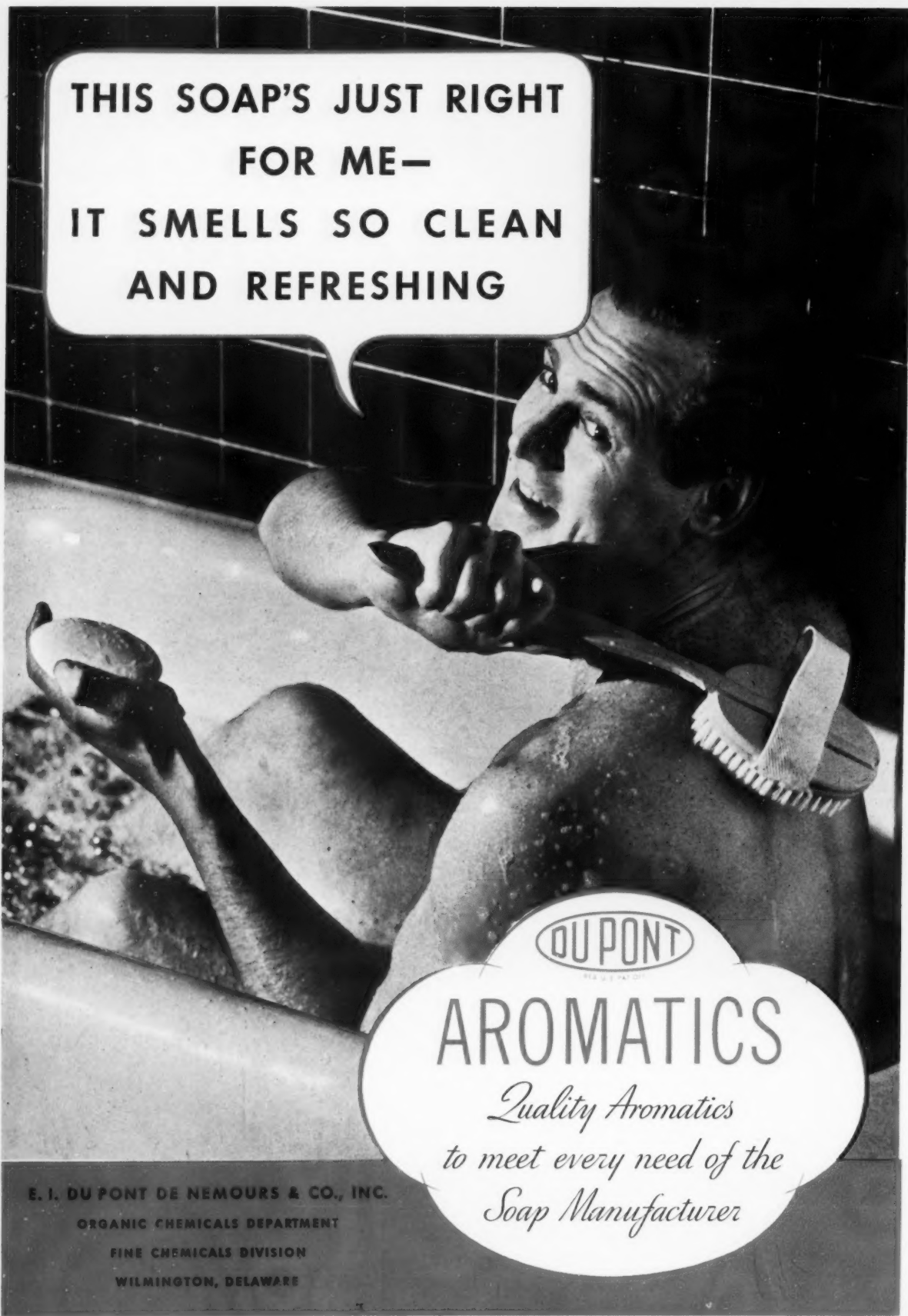
### DEODORANT BLOCKS and CRYSTALS

Urinal Blocks  
Deodorant Blocks  
2 to 40 oz. sizes  
Deodorant Crystals



**FULD  
BALTIMORE,**

**BROS.  
MARYLAND**



THIS SOAP'S JUST RIGHT  
FOR ME—  
IT SMELLS SO CLEAN  
AND REFRESHING

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AROMATICS

*Quality Aromatics  
to meet every need of the  
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E. I. DU PONT DE NEMOURS & CO., INC.  
ORGANIC CHEMICALS DEPARTMENT  
FINE CHEMICALS DIVISION  
WILMINGTON, DELAWARE

# SOAP

Volume XII  
Number 2

February, 1936



**S**ANITARY Products Section, which is included as a department of every issue of SOAP, begins on page 77. Production Section begins on page 65.

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And Other Heavy Chemicals of Standard Purity

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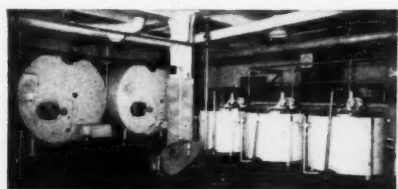


**A**mong the numerous aromatics which go into the compounding of a well made **ROSE ODOR** none are more important from the standpoint of quality than

- RHODINOL • GERANIOL
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For **RED SOAPS** (Antiseptic type)—six new and distinctive blends.

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*"Where it's a question  
of sealing, I always  
come to **ANCHOR**"*

There is much good common sense in those words. While Anchor cannot be expected to know your business and your problems as intimately as you, we do know sealing. We know what closures are most efficient and most satisfactory for any given set of conditions. We ought to... for Anchor has spent upwards of thirty years developing closures, studying various products and packages... learning how to protect and preserve them perfectly, how to give packages the consumer appeal and the attractiveness they need. We have the knowledge that stems from long years of research and patient engineering—on caps and how to make them, on sealing equipment, on packaging routines and problems.

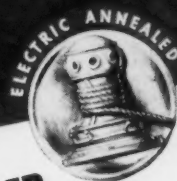
Those are the things, together with the most complete line of closures in existence, that have earned for Anchor the reputation of Closure Headquarters.

You have the final say, naturally, as to how your products will be packed and sealed, but Anchor can help you arrive at a correct decision: one that will eliminate false seals, losses from leakage, evaporation or spoilage, from complaints and claims... one that you can depend on to carry your products no matter what they may be, through to consumers' homes in the best possible condition, with all their quality and purity intact. Anchor's facilities and personnel are at your service. **ANCHOR CAP & CLOSURE CORPORATION**, Long Island City, New York; Toronto, Canada. Branch offices in all principal cities.

*Caps by*

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AMERICA'S FINEST OCEAN FRONT HOTEL



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"Promised to golf at two with John, then to dance in the Palm Gardens at five, so more of this later. Hurry down ... you're missing the best winter ever."

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PERMATONE will assist in the prevention of rancidity in soap stocks. Replace one per cent of your Perfume Oil with PERMATONE for Soap, and you will be very happily rewarded.

*Please write for a sample.*

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# CLIFTON

# *Just Out-*

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*for the Soap, Insecticide, Disinfectant and Allied Industries*

**T**HE new SOAP Blue Book and Catalog for 1936 will be mailed to all SOAP subscribers within a few days. If you will not receive a copy of this publication, why not enter a subscription to SOAP now so we will be able to send you one while the supply lasts?

The new Blue Book is not only a complete buyers' guide, listing sources of supply for everything readers of SOAP need including all raw materials, containers, machinery and equipment, bulk and private brand products, etc. It also contains the condensed catalogs of the leading suppliers of these products. In addition, a business and technical reference section of over forty pages contains much information which should be useful throughout the entire year. An outline of the material in this particular section is shown below.

- New Products—A Few Hints on Their Development.
- Soil Modification of the Tattersfield Method for Determination of Pyrethrins.
- How to Buy Sanitary Products—A Symposium by Leading Manufacturers of These Products.
- Complete Federal Specifications for Soaps and Other Sanitary Products.
- Complete Text of Peet-Grady Test for Insecticides.
- F. D. A. Test for Disinfectants.
- Complete Index of all articles which appeared in the 1935 numbers of SOAP.

*A subscription to SOAP costs only \$3.00 (\$4.00, Foreign) and includes a free copy of the new 1936 SOAP Blue Book.*

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**T**HIS frame and the next one and the next—every slab trim and up-right. But will there be pockets, or will each one be solid soap through and through?

Like the expert chef with good ingredients, your experience and skill make a good product an inevitable result. It's doubly sure when the silicate of soda used is a time-tested P. Q. grade.

P. Q. silicates of soda will save you much in time and actual expense. They completely and thoroughly mix with the other materials to make smooth, even texture soap.

Know beforehand that your soap will be uniformly hard and firm. Use P. Q. pre-tested silicates of soda which are the first choice of soap makers everywhere.

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ESTABLISHED 1931



# SILICATES OF SODA



# 10 Scents

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## NEW PROFIT DOLLARS

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*Ideal for dairy and food  
product sprays where de-  
odorized kerosene is used.*

For Insect Sprays

### PERFUME OIL SWEET GRASS

*A pungent, natural lilac  
type with excellent covering  
power.*

For Insect Sprays

### KEROSPRAY BOUQUET HYACINTHE

*A flowery hyacinth odor.  
A perfect blender. Very  
powerful.*

For Insect Sprays

### KEROSPRAY BOUQUET ROSE M M & R

*"Best Seller" in the popu-  
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bouquet type with great neu-  
tralizing power.*

For Insect Sprays

### PERFUME OIL BOUQUET B.L.S. M M & R

*A general utility odor.  
High odor percentage at  
very low cost.*

For Para Blocks  
For Insect Sprays

A few new scents will add dollars to the sales value of your 1936 line. These M M & R Perfume Oils are recommended not alone for their individual odors but for the economy of their use.

All are highly concentrated to provide greater odor volume and to effect noticeable production economies.

A thorough understanding of your requirements will enable our research chemists to suggest profitable new odors to provide your products with new and definite sales punch.

### PERFUME OIL ROSE FX M M & R

*Inexpensive and exceptionally  
well-fixed odor.*

For Para Blocks

### PERFUME OIL BLUEBELL FX M M & R

*A new, lilac type of ex-  
traordinary power. Highly  
recommended.*

For Para Blocks

### PERFUME OIL PALMA BOUQUET M M & R

*A pleasant masculine note  
with exceptional lasting  
qualities.*

For Liquid Soaps

### PERFUME OIL LUXOR BOUQUET "S" M M & R

*A clean, highly refreshing  
and popular odor.*

For Liquid Soaps

### Perfume Oil Colonial Bouquet M M & R

*Men like its distinctive  
perfume odor. Ideal for  
shaving cream, face cream,  
etc. The odor of Colonial  
Bouquet can not be dupli-  
cated.*

For Liquid Soaps, Creams, etc.

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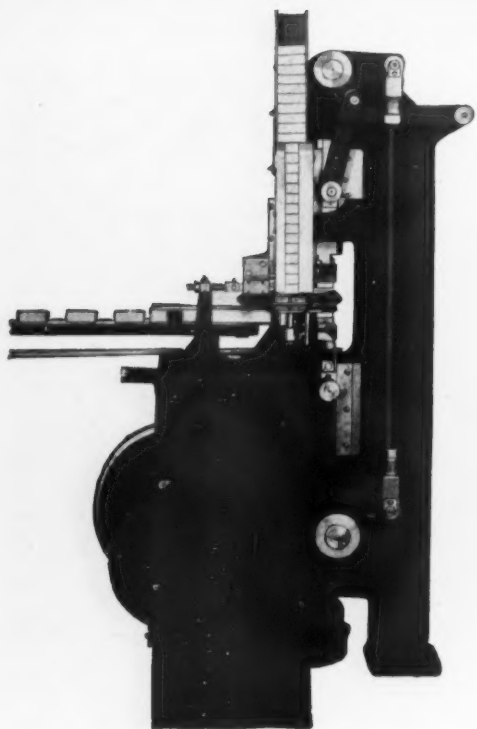
QUALITY ESSENTIAL OILS, BALSAMS,

AROMATIC CHEMICALS, ETC... SINCE 1895

32 CLIFF STREET

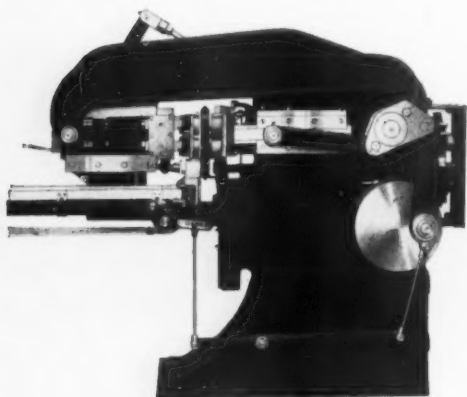


NEW YORK, N. Y.



Type ET Toilet Soap Press

Brine and other lubricants discolor soap cakes. On most soaps, Jones Toggle Presses require no pressing lubricant. Result: *No discoloration of cakes.*



Type K Laundry Soap Press

## "WORN DIES CAN'T DO GOOD PRESSING"



JONES toggle presses conserve the life of dies, thereby doing better pressing and saving die makers' bills for new dies and repairing old ones. A worn geneva destroys dies. The geneva on the Jones Toggle Press runs in an oil chamber, which obviates wear by constant lubrication and by excluding dust and other gritty matter.

All Jones Toggle Presses, by bringing the die box and dies into perfect relation, prolong their life. Complete absence of vibration also removes a source of die wear.

JONES new toggle operated presses more than *treble* the productive life of dies.

*For DIE ECONOMY,  
BETTER LOOKING,  
MORE SALABLE SOAPS*

*replace your old presses with*

## JONES NEW TOGGLE PRESSES

**R. A. JONES & COMPANY, Inc.**  
P. O. BOX 485 CINCINNATI, OHIO

The Standardized Constant Motion Cartoner packages bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads

# SOAP

As the Editor Sees It . . . .

ON two occasions during the past month, the excise tax on coconut oil from the Philippines has been held unconstitutional in United States District Courts. Injunctions have been granted to soap manufacturers restraining the Collectors of Internal Revenue from collecting the tax on the ground that the money is to be paid to a "foreign government" and is not to be used for the public good. Prior to the issuance of these injunctions, a restraining order was secured by a third soap maker in a United States Court, holding up payment to the Philippine Treasury of money already collected. In addition, three suits have been filed by leading edible oil refiners seeking injunctions against the tax.

At first glance, it would appear that the coconut oil excise tax is well on its way to the discard. All that is necessary is to have these decisions of the District Courts sustained by the Supreme Court. However, confidence among legal authorities and larger soap manufacturers that the tax on coconut oil will be permanently removed, appears to be strangely lacking. None of the larger firms of the industry has entered suit against the tax, and all state that they are continuing to pay the tax. Apparently they believe that the suspension of payments, because of an injunction or for any other reason, is too dangerous in view of the heavy penalties which may ensue if the higher courts upset the decisions.

From present appearances, if we may judge

from what the majority of firms are doing, the wise course is to continue to pay the tax. The injunctions which have been issued affect only those companies which have secured the court orders. The law is still in effect until such time as it is declared unconstitutional by the United States Supreme Court. In that event, such money as has been collected is securely tied up by the initial injunction so that it may in time be returned to those manufacturers who have paid it.

THE question has been asked in the soap industry if the average manufacturer would not be better off, now that the coconut oil excise tax is established and has been paid for almost two years, to accept the tax and quit fighting it. It has likewise been pointed out that the tax has been instrumental in carrying domestic oil and fat producers out of the shadow of financial ruin, of establishing them again on a profitable basis, and assuring their continuing in business. We also have discussed this subject with soapers who admit that they do not find the tax as burdensome as we have been led to believe. They take the attitude that if everybody has to wear a ring in his nose, especially their competitors, they do not feel so badly about wearing one themselves.

The answer to this question from the great majority of soap manufacturers, however, has

been emphatically in the negative. They maintain that domestic oil and fat producers do not need this artificial prop to keep them from ruin, and that most of their troubles are mythical or of their own making. They state that a three-cent tax today, if not strongly opposed, can very likely be a five-cent tax tomorrow, as witness already new proposed legislation in Congress. To a seven or eight cent tax, or even higher, is just a short step further. They oppose any tax on raw materials. They point to the multiplicity of taxes with which the soap industry is now burdened, and state that they will continue the fight against the coconut levy to the last ditch.

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**I**N less than two years, the effects of the coconut oil excise tax have been to raise soap prices sufficiently to cause a material shrinkage in consumption, according to leading soapers. That part of the higher prices as represented by the tax is held to be sufficient to restrict household and toilet soap purchases by the poorer classes, and to cause a heavy switch to substitutes by industrial soap consumers. This is the chief feature of the tax which worries soap makers, and why they will continue to fight for its removal and against further proposed taxes on their fatty raw materials.

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**C**OMPETITION in an expanding market may be a serious matter, but competition in a shrinking market is just plain hell. This was the view expressed by the head of one of the largest American soap companies recently. He had in mind the soap industry, which for a decade prior to 1934 enjoyed a steady expansion in consumption of its products, and which during the past two years, has seen a reversal of this expansion. Experience in other industries shows that what was considered vicious competition on the rising wave was just child's play to what happened when the wave of tonnage receded. Burdened with a hundred per cent tax on its fatty raw materials, maybe the soap industry is about to undertake a first-hand study of the economics of declining consumption. As we see it, only broad educational efforts by the industry can continue to bring expanded markets.

**I**F glycerine is to maintain its place in the face of new competition, its producers must be everlastingly alert. They must constantly seek new markets, and new outlets in old markets, and they must meet ever changing conditions. The glycerine producer of yesterday was not faced with the ever-present threat of synthetic chemistry with which current producers of glycerine come face to face daily. These are the views of N. N. Dalton, outstanding American glycerine authority, in a recent report on the work of the Glycerine Producers Association. Continuous research is more imperative than ever if glycerine is to retain its markets.

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**T**HE head of the oldest American soap company has been elected president of the Association of American Soap and Glycerine Producers for 1936,—S. Bayard Colgate, president of the Colgate-Palmolive-Peet Company. If ever men were born "to the soap kettle," it is the present generation of Colgates. The history of their family in the soap business dates back to 1806. The present head of C-P-P was preceded by three generations of soap manufacturers, going back to William Colgate, the founder. Bayard Colgate's position is unique in the world of modern industry.

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**T**HIS is the season of the year when the department stores hold their annual soap sales, when the big retail push is given to private brands of hardwater soap,—or as they are now termed "hard and soft water" soap. Maybe there are some other kinds of water in which soap is used which we do not know about. At any rate, these soaps are designed especially for use in hard and soft water. They are good-quality milled four-ounce bars which retail between forty-seven cents and fifty-nine cents per dozen. These prices are slightly higher than the figures of former years, but not enough higher probably to be apparent to the average retail purchaser. The unusual thing about the private brand prices this year, however, is their close approximation of the prices for nationally advertised toilet soaps. Recent advertising by leading department stores leaves very little to choose on a price basis between the national brands and private brands. But, of course, we must not forget that the "sale" soaps are suitable for use in both hard and soft water.



# THE COCONUT OIL TAX

## What Do the Injunctions Mean?

**T**HE excise tax on Philippine coconut oil of three cents per pound, levied under the Revenue Act of 1934, has been held unconstitutional in two U. S. District Courts during the past month. The first decision was that rendered by the District Court at Cedar Rapids, Iowa, issuing a temporary injunction to the Iowa Soap Co., Burlington, Iowa, against collection of the tax by the Collector of Internal Revenue. The second injunction was issued January 30 to the Cincinnati Soap Co., Cincinnati, by the U. S. District Court for the Southern District of Ohio sitting at Cincinnati. Both decisions held that because the proceeds of the tax are to accrue to the Treasury of the Philippine Commonwealth, a foreign country, the tax is unconstitutional.

The tax on palm oil was likewise held to be unconstitutional inasmuch as it was declared discriminatory because the soap and margarin manufacturers must pay it while the tin plate industry is exempted by the law. Sesame, palm kernel, and sunflower oils, also covered in Section 602½ of the Revenue Act of 1934, played no parts in the suits or the injunctions. The injunction issued to Iowa Soap granted a stay against payment of the tax, instead of the firm paying first and suing later, owing to the fact that the firm claimed it was losing money as a result of the tax where previously it had operated at a profit. The company posted a bond of \$30,000 at the direction of the Court.

Three other suits for injunctions against the coconut oil tax have been filed by Durkee Famous Foods, Inc., New York, Capital City Products Co., Columbus, Ohio, and C. F. Simonin's Sons, Philadelphia. All three of these firms are manufacturers of edible fatty products using coconut oil. Prior to the issuance of the injunctions to Iowa Soap and Cincinnati Soap, an injunction against the Treasury Department to prevent paying money already collected from the coconut oil tax to the Philippine Treasury, a total of \$20,000,000, was issued by a Federal Court at the behest of the Haskin Brothers & Co., Omaha. This latter court order tied up the collected funds, preventing payment to the Philippines, so that the money will be available for refunding to the soap industry in case the Supreme Court finally holds the tax unconstitutional.

This is the status of the fight against the coconut oil and palm oil excise tax to date. The more important feature of the litigation is just what these injunctions will mean to the rank and file of soap makers, and what chances there are of having the tax finally and definitely killed. From such opinions as can be gathered, there does not seem to be much confidence among the larger

soap manufacturers that the injunctions against the tax will be sustained by the U. S. Supreme Court. Possibly this accounts for the fact that none of the larger soapers have applied for injunctions.

**A**T THE recent meeting of the Association of American Soap and Glycerine Producers in New York, the tax was discussed at considerable length. It was held that an application for an injunction, even if successful, would mean that in case of a reversal by a higher court, and in case the tax had not been paid, severe penalties running as high as one hundred per cent might be assessed against the company, just as against any other firm which does not pay. It was also pointed out that the injunction affected only the firm to which it was issued. The point was also made that the only safe course was to pay the tax and await both judicial and legislative developments. Under no conditions, it was stated, should the injunctions in the case of Iowa Soap and Cincinnati Soap be held as reason for any other soaper withholding his tax payments. It was also stated that the Bureau of Internal Revenue, which is appealing the District Court decisions, has stated that in case of reversal, it will assess the maximum penalties on those who have not paid.

The belief also appeared to be prevalent that even should the present taxes on coconut oil and palm oil be held unconstitutional by the Supreme Court, new legislation would speedily be passed by Congress to reinstate the taxes in a legal manner, and possibly at a five-cent level instead of three cents. In fact, when the Iowa injunction was issued, Congress was quietly arranging to broaden the oil excise tax to include soya bean oil and others, and also to increase the rate to five-cents on all the oils included. A bill by Congressman Harold Knutson of Minnesota was introduced last month to increase the tax to five cents. Further action on this bill is reported being held up until after a decision can be obtained from the Supreme Court in the Iowa case.

The reaction of the National Farm Council and domestic oil and fat producers to the injunction issued against the coconut tax, was to renew their efforts for legislation to replace the present law in case it were needed, and to prepare to fight the injunction in the higher courts. The issuance of a twenty-eight page bulletin by the Conference of Domestic Oils and Fats, last month, was to point out the advantages to the American oil and fat producers which the tax had brought. Among other things, it pointed the higher prices for domestic tallow, grease, cotton oil, corn oil, butter, lard, etc., in all an increase

of a quarter-billion dollars in domestic fat and oil values in 1935. The present prosperity of the American vegetable and fish oil industries, the renderer, the soya bean grower, and others, was held to be due solely to the tax.

**I**N summarizing the possible effects of the injunction on the coconut tax, John B. Gordon of the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, expresses the belief that it may require more than a year for a Supreme Court decision in the Iowa Soap case. He advocates that the soap industry, as a means of insuring a tax-free source of coconut oil, get behind the Guffey-Dockweiler Bill, which permits the importation of Philippine coconut oil free of tax when denatured so as to be unfit for human consumption. In a recent statement, Mr. Gordon summarizes a number of interesting points in the coconut oil situation, as follows:

"Efforts to secure the passage of the Guffey-Dockweiler Bill will not be abated one whit as a result of the temporary restraining order granted by the court against the Collector of Internal Revenue for the district of Iowa. This case, of course, applies only within the Iowa Internal Revenue district and it was announced by the Treasury Department that the case will be appealed to the Circuit Court of Appeals and the United States Supreme Court, if necessary.

"Not until the case of the Iowa Soap Company is finally decided in its favor by the United States Supreme Court could any other processor of coconut oil refuse to make payment of his excise taxes. The Bureau of Internal Revenue here states that if the case were finally decided unfavorably, an interest payment of 6 per cent would certainly inhere against all taxes due to the Collector of Internal Revenue from the Iowa Soap Company and probably a 25 per cent penalty, as it is stated by attorneys of the Bureau of Internal Revenue that it remains within the discretion of the Commissioner of Internal Revenue to assess the penalty in case the finding of the Supreme Court should be unfavorable to the Iowa Soap Company.

"It will be recalled that the Hoosac Mills case required about a year to finally emerge through the Supreme Court. This was the case on which the Supreme Court decision invalidating the A.A.A. was based. It should also be stated that the Iowa Soap case is not apt to move as rapidly as did the Hoosac Mills case, because of the desire of the Government to ascertain the legal status of the A.A.A. program. We point out these circumstances to show that the injunction procedure involves a long gamble and that it will certainly require over a year for final adjudication. The above comment is in no sense to be considered as arguing against the effort to have the courts rule the taxes illegal. That is an approach to relief which should be followed through, but if it fails, then where are we?

"The Guffey-Dockweiler Bill affords the best basis of permanent settlement of the continual wrangle with the farming interests in regard to the competitive impact of

coconut oil. If the Bill can be passed at this session of Congress, it likewise affords a much quicker means of settlement of the argument than is available through the action of the courts.

"There is also the thought in our mind that even if for some reason the existing excise taxes were declared illegal, there is no doubt whatever that they could be made legal by collecting them at the port of entry, as is the case with the excise taxes on whale oil and other marine-animal oils. An excise tax on Philippine coconut oil collected at the port of entry would be no more a violation of our obligation towards the Philippines than the existing excise tax. Either one of them is absolutely indefensible from that angle. We very much fear that if the excise taxes were to be declared unconstitutional, they would be re-enacted in the form of an excise tax collectible at the port of entry. It is our earnest belief, therefore, that the quickest and most satisfactory method of settlement of the dispute is through the passage of the Guffey-Dockweiler Bill.

"We do not wish to give the consuming trade false hopes as to the price lowering effect of the removal of the excise taxes on any of the oils and fats. Contrarywise to the belief of some of the smaller consumers in the trade, the removal of the excise taxes, either partially or in their entirety, will cause the prices of oils and fats to rise, not to decline. This is a basic fundamental which everyone must get firmly in their minds. The reason that prices will rise is that the United States is such a large consumer of the world's oil and fat production that it is able in considerable measure to influence world oils and fats prices by bidding a lower price for oils and fats bearing excise taxes than it would bid on these same oils and fats if they did not bear excise taxes.

"This is not due to any concerted action on the part of domestic consumers. *The consuming trade in the United States cannot, while paying the tax, pay the full value for the oil.* The United States will consume roughly 40 per cent of the coconut oil supply of the world. It will consume approximately the same percentage of the world's production of palm oil. Taking these two oils as a concrete illustration, there is no doubt whatever in the mind of the writer that if the excise tax were removed from either of these two oils, partially or entirely, the prices would go up, not down as is the belief in the minds of some consumers.

"Undoubtedly, the industrial consumer in the United States will save money by the repeal of the excise taxes. He is paying a considerable part of the excise tax on imported oils and fats when he purchases them, but he is not, by any means, paying all of the tax. The foreign producer is being forced to sell at the lower price level due to the fact that the United States' buyers in the mass bid a lower price as a result of the burden of the 3c excise tax. It is the firm belief of the writer that domestic oils and fats producers in failing to recognize this fundamental do themselves more harm than good in securing

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# What Future for Glycerine?

By N. N. DALTON

**G**LYCERINE was discovered 156 years ago. Like many useful products, no one knew what it was good for at first and it remained for nearly a hundred years of interest only to the scientist. Its conversion into nitro-glycerine for explosive purposes started it on its way to commercial diversification. In connection with recent protests by the Glycerine Producers Association against compensatory duties on imported glycerine, we have defined the product as a residue. This residue represents, however, to the soap industry a value of several million dollars per year. The United States today with less than ten per cent of the world population produces about one-half of the world's supply, uses all of its own production and has imported an average of eleven million pounds per year for the last five years.

Since glycerine enters a greater variety of products and has more diversified uses than any known product of its kind, these figures form a good barometer of the progress our country has made in the manufacture of the luxuries and necessities of modern civilization. Until recently, this diversification of uses has been without effort on our part. Glycerine except at rare intervals has been so easy to sell that it took a period of under-consumption to prove that our market is not necessarily stable and secure.

Prior to the World War when the explosives industry used over half of our domestic production, the market value of glycerine reflected in considerable measure the world's mining developments and war scares. During the World War a peak price of 65c per pound drove large users of glycerine not only to the use of substitutes, but to development of new processes for deriving glycerine from materials other than fats. The fermentation process of making glycerine from low grade sugar residues is an example of the latter. This process while not successful commercially on account of cost can be used when glycerine reaches a certain value. Ethylene glycol on the other hand can be produced cheaply from natural gas, and in the past fifteen years has slowly replaced glycerine to the extent of 20 to 30 million pounds per year.

During the period in which ethylene glycol was replacing glycerine in the quantity above mentioned, we were given new and important outlets. Transparent cellulose wrapping sheets, through the smart marketing policy of gradually reducing costs and widening markets, has become in ten years one of our important customers. Synthetic resins have supplanted lacquer for automobile and other protective coatings. These two products alone

Formerly vice-president of the Colgate-Palmolive-Peet Company in charge of manufacture, N. N. Dalton has for many years been an outstanding authority on glycerine production and world markets. During the past year, he has been in charge of research for the Glycerine Producers Association. His brief summary of the world situation in a recent report, gives also a glimpse of what may lie ahead in the glycerine market.

have compensated for some of our losses to ethylene glycol. They represented no great effort on the part of the glycerine producer although our Association research laboratories developed and patented a synthetic resin better than the average commercial resin but likewise more expensive.

Except for the period of the World War, the United States has always had to absorb the world surplus of glycerine. For the past ten years we have been putting part of this surplus into G.P.A. Radiator Glycerine. The import surplus has never been very burdensome except when high prices have stimulated excessive imports. The Glycerine Producers Association program was the nucleus and beginning of cooperative effort in the industry. The problem of disposing of the import surplus was common to the small as well as to the large glycerine producer,—each profited in proportion to his glycerine production by the removal of surplus product. The expense of this work has, however, been borne by only the companies directly participating in the anti-freeze program. The research program, however, has had wider support from the industry generally, and the expense of the Association's glycerine work as a whole, exclusive of radiator glycerine, is now on the basis of voluntary contributions of one-tenth of one cent per pound of glycerine produced by the supporting companies.

**S**O MUCH for the past. Now as to the future,—three years ago world stocks of glycerine were at an all time high. Values were in a state of collapse and soap manufacturers all over the world were running spent lyes into the sewers. Today the situation is different. Imports have been restricted by unfavorable exchange and compensatory duties. Stocks in the United States are comfortable but not excessive. Consumption is about on a par with production. Nevertheless the situation might change at any time. Italy's adventures may cease,

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Gathering palm fruit in the Belgian Congo is a precarious business. Dropped fifty feet to the ground, the bruising which the fruit receives is reflected in high free fatty acid in the finished palm oil.

## PALM OILS

A Discussion of the Production, Refining, Bleaching, Grading, and Uses of Palm Oil and Palm Kernel Oil.

By Margaret J. Hausman

**F**ROM the fruit of the palm tree (*Eloeis guineensis*, and subspecies), the soap industry gleans two of its most valuable raw materials, palm oil, derived from the fruit of the tree proper, and palm kernel oil, derived from the nut contained in the fruit. The palm tree, technically known as *Eloeis Guineensis*, grows abundantly in the natural state on the West coast of Africa. For a great many years, these wild African palms were the only source of commercial palm oil, but quite recently the tree has been cultivated in the region of the Malay peninsula, particularly in Sumatra. Here large plantations are government controlled and produce the better qualities of oil. Some success has also been attained in the growth of these palms in parts of the Amazon Valley. It is of interest to note that the nature of the oil varies considerably with the locale in which the trees grow. Palm trees grow best in light places, on deep neutral or alkaline soils and begin to bear fruit from about the fourth to the eighth year, yielding their full harvest several years later, but then continuing their yield for an additional 50 or 60 years, the average life of the tree.

The palm fruits grow in bunches, which grow fewer in number as the tree grows older. Mature palms bear from two to six bunches of fruit, each bunch containing a thousand or more fruits, and the fruit makes up about 60 per cent of the weight of the bunch. The palm fruits are egg-shaped and about one to two inches long and three-quarter to one inch in diameter. Their average

weight is from six to eight grams. The oil of the fruit itself is contained in the fleshy portion which is largely made up of longitudinal fibers, and the quantity of oil present varies considerably, ranging anywhere from 30 to 70 per cent. A great deal of difference exists too, in the proportion of fleshy portion to kernel and in the amount of oil present in the kernel. Crude native methods for obtaining palm oil have existed for centuries, the method varying, of course, in different places. Quite recently attempts have been made to introduce modern methods and equipment into regions where the oil is abundantly produced, but the difficulties attendant upon such attempts are patent.

The finest oil prepared by the native methods is that which is used only for edible purposes by the natives themselves, and not prepared in any commercial quantities. It is produced by selecting fruit which is just thoroughly mature, and boiling these fruits in water until they are soft. Then they are removed from the water and pounded until the seeds can be readily freed. The pulp is then transferred to boiling water and the oil which rises to the surface is skimmed off and clarified





Natives of Africa fill the large steel casks with palm oil for shipment to soap manufacturers in all parts of the world. Even the filling of the casks is extremely primitive.

by one of any number of processes. The oils prepared by this method frequently contain less than 2 per cent of free fatty acids and do not break down as rapidly as oils prepared by other, more careless methods.

Another native method which produces fairly high quality oil consists in storing the fruits for some time, anywhere from a few weeks to about three months, in holes dug in the ground and lined with leaves, such as banana leaves. The fruit is sprinkled with water, covered with leaves, and weighted by stone and wood. In this manner fermentation takes place, and the fleshy part of the fruit becomes readily separable from the kernel at the end of this fermentation period. The pulp is then put into rough nets fitted with sticks, and the oil is squeezed out by twisting the sticks. Another method for getting the oil out of the fermented pulp consists of allowing the pulpy mass to drain over a hole the sides of which have been cemented. The oil which drains into these holes can then be ladeled out.

Inferior qualities of oil are then prepared by mixing the residual pulpy mass with water and boiling it in large iron vessels until the oil rises to the top and can be skimmed off. The residue from this procedure is then transferred to a bag and squeezed out. Still more oil can be skimmed off from the top of the liquid which comes off.

On account of these crude methods of extraction, what with the delays permitted throughout the entire treat-

ment, the lack of control over fermentation, the lack of precautions with regard to keeping the intact material out of contact with decayed matter, there is a considerable waste of oil, and a considerable quantity of free fatty acids present in the oil produced. In addition, no care is taken to preserve the fruit as it is picked, and much damage is due to this.

Improvements in this direction consist in sterilizing the fruit to prevent decay, careful storage in dry, well-ventilated places, more careful gathering, and the like. It has also been found that heating the fruits for about 10 minutes at 55° C. is effective in stopping the action of the enzymes responsible for hydrolysis in the oil. Fatty acid formation is also reduced by heating the extracted oil to 110° C. and keeping it at this temperature for a short time.

Modern chemical engineering practice has contributed much in the way of more efficient extraction of the oil. One of the methods carried out by one of the larger oil companies consists of charging over a ton of the palm fruit into a steam pressure digester, and steaming for thirty minutes, with constant agitation. At the end of this steaming operation, the charge is automatically transferred to a centrifuge for ten minutes, the oil being



A modern oil mill in Sumatra where the production of palm oil is on a considerably more modern basis than in Africa, resulting in much higher quality oil on the average.

separated and driven off with the aid of steam. The oil that is discharged is pumped into a settling tank from which it is withdrawn to storage tanks. The residue remaining in the basket of the centrifuge is then dried and the kernels separated and prepared for export. By means of this process, a high yield of oil, low in free fatty acids,—provided sound fruits are used,—is produced.

Various other methods are carried out in different places, and sometimes combinations of several features, as for instance combinations of centrifuges and hydraulic presses, are used. Sometimes, solvent extraction is used to work the residual palm cake to secure residual oil. Much has been accomplished, too, in the direction of

equipment for the mechanical separation of the fruit from the bunches, and the separation of the fruit from the kernels.

**P**ALM oils derived from different sources vary widely. At ordinary temperatures the consistency of palm oil varies from that of soft butter to hard tallow. The hardness of the oil varies with the percentage of free fatty acids, the higher the percentage of such acids, the harder the oil. Palm oil varies in color from pale yellow to deep orange, and sometimes is as dark as reddish-brown. Much effort has been spent on the bleaching of palm oil, in order to make it more valuable not only for edible purposes, but for soapmaking as well.

There are a number of methods by means of which palm oil can be bleached, namely, by heat, by light, by blowing air through the heated oil, by treating the oil with potassium dichromate and hydrochloric acid, by the use of certain activated earths and carbons, and by

The palm nuts, brought to the mills in dump-cars, are stored in bins to await crushing. Scene in the Belgian Congo.





treating the oil with benzoyl peroxide or hydrogen peroxide. The use of air for bleaching palm oil has been favored over the other methods. Cobalt borate has been found to be an effective catalyst for this process, and when used even in extremely minute quantities, with the oil heated to a temperature of  $90^{\circ}\text{C}$ ., made it possible to obtain a satisfactorily bleached oil in one and one-half to two and one-half hours. This bleaching effect is claimed to be permanent for over a year.

Bleaching by means of the dichromate process consists in treating the oil, after it is freed from its greater impurities, with 1 to 3 per cent of potassium dichromate and the calculated amount of hydrochloric acid necessary to produce the maximum oxidizing effect. The spent chrome solution is then run off, and the oil is washed with dilute mineral acid to get rid of the last traces of

Pumping palm oil from a tank steamer into tank cars at New Orleans for shipment to American soap plants. The modern and economical method of handling oil imports.

chromium and then with water until it is free from mineral acids. Chromium compounds present in the oil lead to a green coloration. The difficulties encountered in this process arise from the fact that the bleaching is not always permanent, and the dark color is very liable to return. This is of particular concern to the soapmaker, since a dark palm oil gives a dark soap, the saponification process having no effect upon the coloring matter present in the oil. Not all palm oils, however, can be bleached successfully.

Casks of palm oil being transported to the coast on narrow gauge railway for shipment from Sumatra, Netherland Indies.







Clusters or regimes of palm fruit being gathered from a cultivated grove of middle-aged palm trees in Sumatra. The fruit is handled carefully to prevent bruising and subsequent fermentation to keep down free fatty acid content of the oil.

The classical method of refining oils with alkali, removes little or none of the deep red color that is characteristic of poorer quality palm oils. Subsequent deodorization, however, after the oil has been subjected to alkali refining treatment, will bleach the oil to a yellow color. This yellow color can then be removed by certain activated earths or carbons.

Until a comparatively short time ago, palm oil was imported into the United States for soap-making and for use in the tin-plate industry. Since it is a non-drying oil, it has been found valuable in protecting the surface of the heated iron from oxidation before it is dipped into the molten tin. What is known as "palm oil greases", compounds made up of palm oil, cottonseed oil, and mineral oil, are also used in the tin-plate industry. The quality of the oil which was important some years ago was poor, free fatty acids usually being present even to the extent of 60 per cent or more. Furthermore, many impurities, such as dirt, stone, and so forth were present, usually intentionally added as adulterants by the natives in the country where the oil had been produced. Color and odor, naturally, were very poor.

About fifteen years ago, M. F. Lauro<sup>1</sup>, in collaboration with W. H. Dickhart, refined palm oil to make it suitable for edible purposes in this country. Today more and

more palm oil is being used for edible purposes here. In margarine, it is considered desirable, inasmuch as its yellow color increases the resemblance to butter, and since it yields a product which does not melt sharply when heated, but becomes pasty and remains so over a considerable temperature range. It was found that proper cultivation and care of the fresh palm fruit produced an oil which can be very satisfactorily refined and deodorized, and fitted into the edible line. About 10 per cent of the total amount of palm oil consumed in this country now goes into food products, most of it being consumed in vegetable shortenings and margarine.

**A**BOUT 80 per cent of the total consumption of palm oil in the United States goes into soap, and palm oil makes up about 10 per cent of the oils used in soap, thus ranking third in the field of oils and fats used in soap. Considering vegetable oils alone, it ranks second only to coconut oil in the volume of its use in soap manufacture. Palm oil consists chiefly of the glycerides of palmitic and oleic acid palmitin and olein, respectively. As far as its identification is concerned, no such test as specific color reactions exist, but it is really a very simple matter to distinguish palm oil from other fats and oils without such specific reaction.

Palm oil produces a hard soap of a consistency similar to that formed by tallow, and somewhat difficultly soluble. It is often used for the preparation of violet soaps, since its characteristic odor, that of wood violets, persists

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Primitive hand crushing of palm oil in Africa for edible use of the family. Only a small part of the fat content of the fruit is extracted by this method.



In spite of wide improvement in public water supplies since 1922, a large part of the American population still depends on hard water,—a significant factor in the sale of soaps and detergents.

## HARD WATER— And Soap Sales

**W**ATER available for general use in any community has a close relation to the types of soaps and detergents in demand, as has been known by soapers for many years. The wider use of alkaline household water softeners in hard water districts, and of cold-made coconut oil toilet soaps, has been more a matter of necessity than of choice. The introduction of so-called coco-castile soaps some years ago in the middle-west was not to fool the public. It was to give them something in the way of white toilet soap which could be used in the hard water districts,—a soap borne of necessity, one which would lather where olive oil soaps would not. Combination washing powders, part soap and part soda ash, were introduced originally as combination water softeners and detergents, aimed to overcome faulty water conditions. Straight trisodium phosphate detergents and all-purpose cleaners were first marketed with an eye to the needs of the hard water districts,—aimed to avoid the insoluble lime and magnesium soap scums.

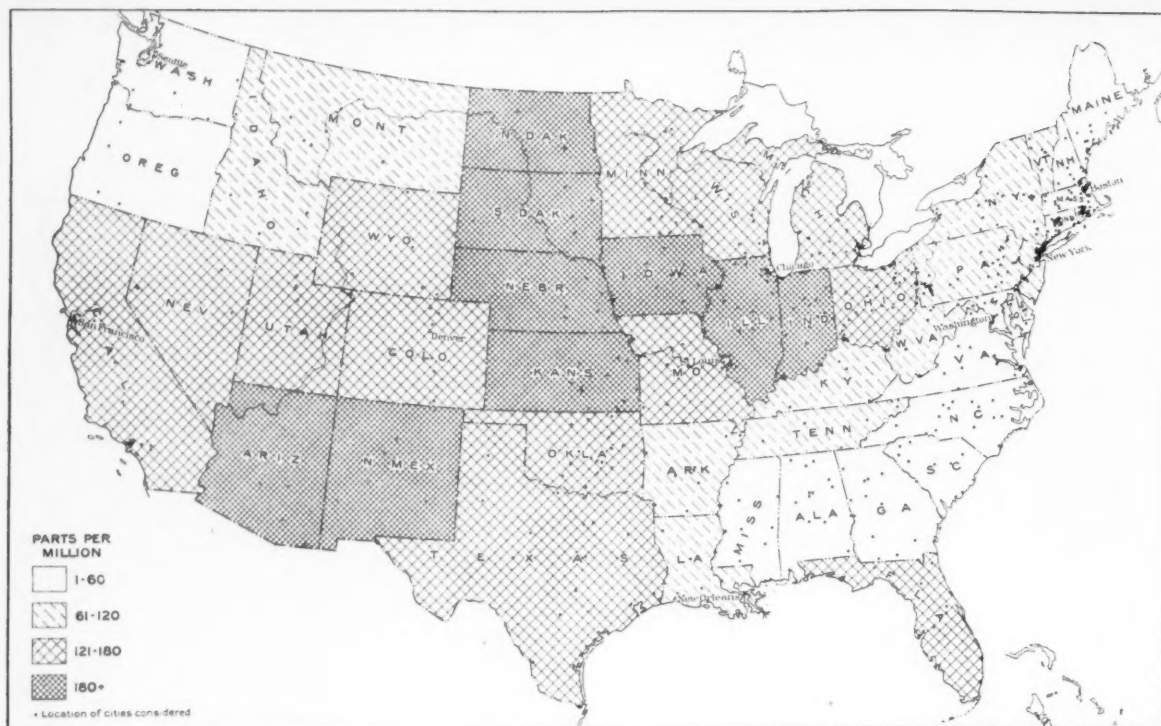
From the economic angle, water conditions have a direct bearing on the per capita soap consumption of any community. Where comparative studies have been made\*, they show a per capita consumption close to fifty pounds per year in districts with very hard water, scaling down to 28 pounds in districts with moderately hard water. The figures indicate that soap consumption is almost directly proportional to water hardness. The increased soap consumption resulting from hard water is, however, not as important economically as might be believed. The cost of water softening plant operations is stated to be equal and frequently greater than the value of the excess soap consumed by the people being served with hard water. Furthermore, the chief objection by the residents of any community to hard water is not the waste of soap, but the effects of the insoluble soap scums which are precipitated in the fibers of washed clothing with a

gradual dulling and greying of the fabrics. Likewise, the difficulty in lathering in toilet soaps is stated to be a greater objection than the extra soap consumed to do the work.

The chief impetus to the sale of the newer non-saponaceous detergents is unquestionably the difficulties encountered with soap in hard water districts. If these newer detergents could be sold at prices competitive with soap, and were they equal to soap in all-around detergent uses, there is little doubt but that they would soon completely replace soap products in the hard water regions of the country. However, on the whole they have drawbacks in addition to their higher cost which still leaves the soap-hard-water problem one to be solved. Soaps, both with and without alkaline salts, and alkaline salts alone, not only in the home, but for laundering, dish washing, and general purposes in hotels, institutions, hospitals, power laundries, and the like, are still most economical and satisfactory if their continued extensive use is a criterion.

**O**VER the ten year period from 1922 to 1932, there was a marked improvement in the quality of water supplied by various public works in all parts of the country, according to an investigation by the Geological Survey of the Department of the Interior. Not only was the hardness of public water supplies cut down anywhere from fifty to ninety per cent in instances where very hard or medium hard water had been supplied previously, but chlorination, filtration, and other methods of purification were more widely adopted. Of course, this improvement in water supply has been confined chiefly to cities. When it is considered that the largest bulk of the American population still lives on farms, each supplied by individual wells, the relation of the main water supply to soap consumption has not been changed to any material extent. However, the wide use of rain water stored in cisterns has been a custom for many years on American

\* *Water Works Engineering*, Jan., 1934. *Soap*, pg. 21, Mar., 1934.



WEIGHTED AVERAGE HARDNESS, BY STATES, OF WATER FURNISHED IN 1932 BY PUBLIC SUPPLY SYSTEMS IN OVER 600 CITIES IN THE UNITED STATES.

farms and this has always been a partial solution of the hard water problem.

Industry has benefitted materially from water softening and purification operations, points out the Geological Survey which covered the subject quite completely in a publication reporting on its studies of 1922 and 1932, entitled "The Industrial Utility of Public Water Supplies in the United States." In this, the chief causes of decreased value of water supplies are listed as hardness, corrosiveness, presence of iron and manganese, and tastes and odors. The number of places where these factors are being considered in water treatment increased greatly between 1922 and 1932. With the improvement in water quality, the problem of the soap consumer, especially the industrial consumer of soap such as the power laundry, textile mill, hotel and restaurant, has been much reduced. In some cases, previous water supplies have been abandoned in favor of new sources, but the greatest part of the improvement has come from more expert and thorough treatment, including the general use of some methods that were little used ten years ago.

Softening of hard water has become more common and the softening is being carried further than it was in 1922. The common standard for the hardness of softened water has been lowered from around 100 parts per million as  $\text{CaCO}_3$  to around 80 parts. In practically every plan for the purification of a hard water to make it safe for drinking, provision is also made for softening. Of 670 places, with a total population of 56,696,000 for which data are given in 1932, only 40, with 4,065,000 inhabitants, were

served in 1932 with softened public water supplies. There were in the 670 places about 7,209,000 consumers using water with hardness over 180 parts per million, and 10,579,000 using water with hardness between 121 and 180 parts. It is probable that the proportion of users of hard water is considerably greater in the 53.8 percent of the population of the United States not considered in the report from which these figures are taken.

A very rough general indication of the distribution of hard water in the United States is given by the hardness map which is based on weighted averages for the different states calculated from actual results given in Water Supply Paper 658 of the Geological Survey. The shadings are strictly accurate for the averages of the cities considered. If a larger or smaller number of cities had been included in many of the states, the shadings would be different. The range in hardness of the supplies in Florida is from 7 to 520 parts per million. For Oklahoma the range is from 35 to 626. Obviously the averages given indicate only very roughly the general character of the waters of some states.

In preparing the map of water hardness which is reproduced herewith, the Geological Survey points out that the map should not be taken too seriously, without an understanding of its limitations. The figures from which this map was made, represent only the water supplies of 46.2 per cent of the population of the United States. The percentage included in several of the states is much smaller than this. The map is intended to give only a general picture of water hardness and is not to be taken too literally.

In 1922 some of the supplies were treated to prevent corrosion, but this treatment was not very common. Even in 1932 a number of supplies were slightly corrosive, but it is common practice to determine regularly the pH of the water as delivered, and it is becoming common practice to give a final treatment to maintain the pH within a definite range. This treatment generally increases the hardness slightly. The removal of iron and manganese was more general in 1932 than in 1922. Most of the installations for iron removal are made in connection with ground-water supplies, but the development of final treatment to increase the pH to prevent corrosion has brought about separation of manganese in some filtered surface supplies. On this account the purification process has been revised to eliminate the manganese in the regular course of the filtration. The elimination of iron and manganese is of real value to those using the waters for home or commercial laundering.

The occurrence and removal of tastes and odors has probably received in the past 10 years more attention than any other phase of water purification. The methods of treatment are not as nearly standardized as the processes for filtration, softening, and the removal of iron and manganese. Data for some of the supplies that have been improved are given in accompanying tables. The results for dissolved solids are derived from averages of analyses or from analyses of typical samples or are estimates based on several typical or average analyses.

Recognizing and meeting the demand for soaps and detergents designed for use in the hard water districts have accounted for a very considerable tonnage of more or less specialized products in the past. On the whole and in spite of marked advances in the quality of water supplies over the past decade, the market for hard water detergent specialties appears to exist to just about as great an extent as it did previously. In short, that portion of the American soap market being served with water ranging from moderately hard all the way to very hard, still represents the largest section of the market. The de-

mand for products catering to this part of the market will probably show no decline for many a year even though the progress in improving water conditions continues to make great strides.

*Approximate Average hardness (as CaCO<sub>3</sub>) of larger public water supplies in the United States, 1932*

Place	Population supplied (thousands)	Hardness (parts per million)
Akron, Ohio	225	*100
Atlanta, Ga.	270	14
Baltimore, Md.	805	54
Birmingham, Ala.	305	*67
Boston, Mass. (Met. Dist.)	1,385	15
Bridgeport, Conn.	185	15
Buffalo, N. Y.	573	118
Chicago, Ill.	3,679	125
Cincinnati, Ohio	451	*110
Cleveland, Ohio	1,200	120
Columbus, Ohio	291	*84
Dallas, Tex.	260	*69
Dayton, Ohio	201	368
Denver, Colo.	288	*121
Detroit, Mich.	1,798	97
Flint, Mich.	156	*298
Fort Worth, Tex.	163	*164
Grand Rapids, Mich.	169	*123
Hartford, Conn.	208	17
Houston, Tex.	292	**85
Indianapolis, Ind.	364	
White River		*280
Wells		316
Jersey City, N. J.	404	55
Kansas City, Mo.	419	*221
Los Angeles, Calif.	1,238	
Owens River		*140
Los Angeles River		*205
Louisville, Ky.	308	*110
Memphis, Tenn.	253	39
Milwaukee, Wis.	652	126
Minneapolis, Minn.	464	*172
Nashville, Tenn.	154	*80
Newark, N. J.	1,045	29
Pequannock Supply Wanaque Res. (North Jersey Dist.)		50
New Haven, Conn.	242	
Lake Whitney		69
Lake Dawson		22
Lake Gaillard		48

\*Varies over a wide range.

\*\* Estimated.

Source, treatment, and approximate average or typical hardness of certain public water supplies in 1922 and 1932

Place	Source	Treatment	Dissolved Solids (Parts per Million)		Total Hardness as CaCO <sub>3</sub> (Parts per Million)	
			1922	1932	1922	1932
Bloomington, Ill.	Wells	Impounded surface water	None	Filtered and softened	969	108
Cedar Rapids, Iowa	Cedar River	Filtered	228	154	811	77
Decatur, Ill.	Sangamon River	Filtered	293	145	186	88
Marion, Ohio	Wells about 135 ft. dp.	None	811	720	244	116
Miami, Fla.	Wells 40-45 ft. dp.	None	772	191	613	212
Oklahoma City, Okla.	North Canadian River	Filtered	786	578	364	107
St. Petersburg, Fla.	Wells near city	None	754	200	534	158
Springfield, Ill.	Wells and infiltration galleries	Sangamon River	None	None	404	160
Tampa, Fla.	Wells and spring	Hillsboro River	None	Filtered and softened	371	176
Topeka, Kans.	Kansas River	Filtered	1,273	149	305	108
Tulsa, Okla.	Arkansas River	Filtered	391	245	418	103
Youngstown, Ohio	Mahoning River	Filtered	990	98	166	119
		Meander Creek im-	239	178	336	80
		pounded			139	81

Approximate Average hardness (as CaCO<sub>3</sub>) of  
larger public water supplies in the United States, 1932  
(Continued)

Place	Population supplied (thousands)	Hardness (parts per million)
New Orleans, La. ....	459	*72
New York, N. Y. ....	6,930	
Catskill supply .....		20
Croton supply .....		51
Ridgewood supply .....		*70
Oakland, Calif. ....	457	**70
Okla. City, Okla. ....	185	*121
Omaha, Nebr. ....	214	*251
Philadelphia, Pa. ....	1,951	
Delaware River .....		*69
Schuylkill River .....		*120
Phila. Suburban .....		
District, Pa. ....	315	62
Pittsburgh, Pa. ....	985	*90
Portland, Ore. ....	302	8
Providence, R. I. ....	314	32
Richmond, Va. ....	183	*56
Rochester, N. Y. ....	382	
Hemlock Lake .....		75
Lake Ontario .....		105
St. Louis, Mo. ....	822	*83
St. Paul, Minn. ....	272	160
San Antonio, Tex. ....	232	221
San Francisco, Calif. ....	634	**150
Scranton, Pa. ....	214	**30
Seattle, Wash. ....	366	21
Syracuse, N. Y. ....	209	113
Toledo, Ohio ....	291	*253
Washington, D. C. ....	503	*93
Worcester, Mass. ....	195	11
Youngstown, Ohio .....	186	81
Total .....	35,048	

\*\* Estimated.

## FUTURE FOR GLYCERINE?

(From Page 25)

or a change in national gold policies may decrease consumption of nitro-glycerine in gold mining.

Russia has started to wash and has a potential increased glycerine production of fifty million pounds per year (remember, the United States with less population produces 150 million pounds.) Some cigarette manufacturers are trying to convince the doctors and the public that ethylene glycol makes a milder cigarette than glycerine does. Atlas Powder Company has recently announced two glycerine substitutes under the names of *Sorbital* and *Mannital*, similar chemically to glycerine. DuPont recently publicized *Nitrammon* as a safe explosive for most purposes for which nitro-glycerine is used.

Glysantin is an ethylene glycol compound being sold in Germany for anti-freeze. Increased production of glycol outside the United States will affect our domestic values just as much as if it were produced here. Glycerole, a mixture of glycerine, water, and sugar, is being sold to the New England paper trade by the Providence Drysalteries. Oxyline and Salatine are being offered as glycerine substitutes by Boston and New York agents.

True glycerine is chemically one of the alcohol group and subject to the rapid and surprising developments in organic chemistry. To cite a few of these, natural indigo was at one time one of the most stable and profitable crops of the Far East, but artificial indigo

ruined that industry. Ammonia markets were changed almost over night by the air fixation nitrogen process. Natural musk at \$150 per pound has been almost totally replaced by artificial musk at \$5 per pound or less. The industry of wood distillation was crippled by the synthetic production of methanol acetic acid. No market is safe. We have learned to expect that about every so often we will hear of some new product that chemically speaking skates along the edge of true glycerine.

The program of the glycerine producers association seems clearly outlined for us: (1) Research to maintain our position in present markets and to encourage new ones. (2) Education to protect the present uses of glycerine. There is no outlet so unimportant that it may not prove valuable at a later date. (3) Cooperation within our own organization to eliminate dishonest claims, confiscatory taxation, and unfair attacks.

## COCONUT OIL TAX

(From Page 24)

these excise taxes. We question if they raise the sum aggregate of domestic oils and fats values. Moreover, we are quite positive that the excise taxes reduce the price at which imported oils and fats enter edible channels, to which field the great mass of American oils and fats producers cater.

"This despite the fact that the edible oil user has demonstrated his ability to absorb much higher taxes than is the case with the industrial user. The difficulty is that the ultimate consumer balks when the industrial user tries to get prices up, whereas he makes little resistance when the edible oil user pushes them up on him. In the case of any given oil, where the minor usage is in edible channels and the major usage is in industrial channels, the edible buyer secures excellent bargains when an excise tax is levied because of the inability of the industrial user to push the general price level up, owing to the sales resistance which his manufactured products meet at higher price levels.

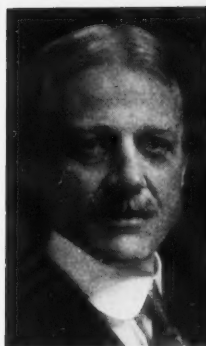
"Quite the opposite from injuring the domestic producer of oils and fats, the domestic industrial user performs a real service to the domestic producer of oils and fats when he buys freely of those oleaginous materials which can be utilized for edible purposes and thereby raises the world level of price on them."

## DRY CLEANING SOAPS

How and why dry cleaning soaps clean is still shrouded in mystery in spite of the various theories presented. A discussion of some of the technical difficulties encountered in the use of dry cleaning soaps and their effects on the manufacture of these products by Dr. C. A. Tyler will be published in an early issue of SOAP.



# The First Hundred Years....



Late Wm. A. Webb



Leslie Webb, Jr.

## Hunnewell Soap Co. Begins Its Second Century

**I**F THE first hundred years are the hardest in the soap business, then the Hunnewell Soap Company of Cincinnati should have easy sailing from now on. The company, the oldest manufacturers of industrial soaps in the United States, is in the first year of its second century in business. Founded in 1835 in Cincinnati by Daniel Hunnewell, the firm first made scouring bars which were sold primarily through the grocery stores. Back in the days of the "brown stone fronts", this scouring bar had its greatest popularity in keeping the front stoop well bleached and clean. In the early days, sales were confined to Cincinnati, but under the activities of Greenwood Hunnewell, son of the founder, the company broadened its activities to take in cities adjacent to Cincinnati.

For sixty-five years the business remained with the Hunnewells until it was purchased by William A. Webb in 1900. Under the direction of Mr. Webb, the activities of the company spread to all the leading cities of the Middle-West. The product list of the firm was also expanded and the field of soap powders, oil soaps, and alkali compounds was entered. Sales offices and branch warehouses were established in Chicago, Detroit, Pittsburgh, and St. Louis. The company still manufactures the *Shine-All Scouring Bar*, a product and trade name which date from the very beginning of the business in 1835. At the present time, a full line of soap products with the exception of chips is produced.

As the character of the products and sales methods have changed through the years, so has the general character of the business. The original plant was a small one-room shack, located on the End Canal which formerly linked the Ohio River with Lake Erie. Today there are two plants in Cincinnati, one a soap powder unit located on the river front, and an oil soap unit out in the industrial section west of the city. In addition to the *Shine-All Scouring Bar*, the other leading products of the company include *Crown Soap Powder* and *Giant Klenzall*, the latter having been on the market for close to seventy-five years. Where the original sales were

through grocers and other retail channels, the operations today are exclusively the sale of industrial soap products direct to industrial and institutional consumers. There are now twenty-one sales offices scattered about the country and twenty-nine sales representatives calling on the consumer. The year 1935 which closed the first century of continuous business, was one of the largest in the history of the company.

The present head of Hunnewell Soap is Leslie Webb, Jr., a nephew of William A. Webb. Leslie Webb was for some years in the advertising business and his successful handling of the Hunnewell account for his uncle, opened a place for him in the soap business. He became associated with Hunnewell in a sales capacity in January, 1928, primarily to establish and build up a retail department for the sale of packaged soap products. Within eighteen months of Leslie Webb joining the company, William Webb died suddenly of a heart attack in his office. The directors decided to abandon the idea of manufacturing and merchandising a retail package line for which the new department had been established. Leslie Webb was thereupon elected president and placed in charge of the business to take over the development and sale of its products in the wholesale industrial field.

In connection with the completion of a hundred years of unbroken soap manufacturing operations by Hunnewell Soap, it is interesting to note that for ninety-five years of the life of the company, only three men were at its head, Daniel Hunnewell, the founder, Greenwood Hunnewell, and William Webb. For the past five years, Leslie Webb has headed the firm, making only the fourth head in the full hundred years. It is also interesting to note that Hunnewell is the third oldest soap concern in the United States, and the oldest industrial soap manufacturer. Of course, Colgate is the oldest firm in the business dating back very close to 1800. M. Werk Company of Cincinnati, established in 1832, is the second oldest soap manufacturer. Two years after Hunnewell was founded, in 1837, Procter & Gamble started in business, also in Cincinnati.



New

New Fitch Sanitary Shaving Mug, sold in special combination with three one-pound jars of Fitch Shaving Cream for two dollars. Plastic mug with dispensing bottom holding half pound of cream, rubber bulb forcing cream into mug from bottom through small opening.



Soap flake package of Abraham & Straus, Brooklyn department store, chosen best private brand package, winning Wolf Special Retail Award at first retail packaging clinic at National Retail Drygoods Association silver jubilee convention at Hotel Pennsylvania, New York.



Five gallon steel pail recently adopted as container for floor wax for professional and industrial use by the Continental Car-na-var Corp. of Brazil, Indiana. Container by Wilson & Bennett of Chicago.

# Products and Packages



Gunk, the cleaning and degreasing compound for garage floors, motor trucks, machinery, etc. appears in a new container holding eight pounds. Made by the Curran Corp. of Somerville, Mass. Can by New Can Co. of Malden, Mass.



One of the most beautiful and striking packages for furniture polish, a new container recently put out by S. C. Johnson & Son of Racine, Wisconsin. Bottle manufactured by Owens-Illinois.



A new retail package for water emulsion floor wax, Perma-Glo, manufactured by Fuld Brothers of Baltimore. Lithographed in blue and orange. The first adventure of Fuld into the retail field.

# GOOD T.S.P.

GRASELLI Tri-Sodium Phosphate is standard for general cleaning purposes. It has fairly won its reputation as *GOOD T.S.P.*—for 6 definite reasons:

1—*Quality* backed by 97 years of chemical experience; 2—a *process* permitting Grasselli T.S.P. to *cure* (hence it is free flowing); 3—*five grades*—fines, globular, medium, coarse, and flake; 4—*almost instantly soluble* in water

making hard water soft; 5—*non-sifting packages*—barrels with paper liners, also fibre kegs and bags; 6—*Twenty branches* and warehouses to serve you—quicker delivery—complete stocks—economy of freight rates.

That, in a nutshell, is why *Grasselli Grade* is known as *good T.S.P.*—and *good Service*. Prove it to yourself—try it.

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# NEWS . . . . .

## Lever Expands at Toronto

A steady expansion of business of Lever Brothers, Ltd., has necessitated a \$1,000,000 extension of the company's plant in Toronto, it was announced recently by the firm's president, E. Parnell Tyler. The new building will be three stories in height and will house manufacturing units. Ground will be broken in the spring.

## Albany Soap Elects

Joseph Grober was elected president and general manager of Albany Soap Corp. at the annual meeting held Jan. 14th. Other officers for the coming year include: Wm. C. Schopman, vice-president; Wm. H. Geier, assistant manager; John H. Rea, treasurer; and Harry J. Geier, secretary.

## George D. Fink Dies

George D. Fink, 61, general manager of the Pynol Soap Co., Burlington, Iowa, since 1931, died in Burlington Jan. 21. He had been ill for three weeks. The company which he headed as manager is a subsidiary of the Iowa Soap Co. The widow, son and one daughter survive. Interment was in the Burlington cemetery.

## C-P-P Appoints Marlin

Marcus Marlin has been named divisional soap sales manager in Kansas City by Colgate-Palmolive-Peet Co., and will have supervision over the district offices in Kansas City, Texas, St. Louis, Denver and Omaha. He was formerly Dallas division manager.

## C-P-P Moves in Detroit

Detroit offices of Colgate-Palmolive-Peet Co. have just been moved to 704 United States Warehouse Building.

## Fire at Quaker Soap

The two-story brick plant of Quaker Soap Co. at Secaucus, N. J., was seriously damaged by fire on the night of January 14. The blaze burned for several hours before it was extinguished.

## Colgate Treasurer Dies

Louis Carl Proesch, treasurer of Colgate-Palmolive-Peet Co., died in Orange Memorial Hospital, Orange, N. J., January 20, after a short illness. He was fifty-nine years old and a native of Chicago. Mr. Proesch



first became associated with the soap industry when he joined the sales staff of the old B. J. Johnson Soap Co., which became the Palmolive Co. in 1900. When Palmolive merged with Colgate and Peet, Mr. Proesch was made treasurer of the combined companies. His home was in Maplewood, N. J., and he was an active member of the Masonic organization. His wife, Mrs. Mamie Welch Proesch, survives, as well as a daughter, Miss Dorothy Proesch, a son, Lawrence Proesch, and a sister, Mrs. Dora Fetherstone.

## New Janitor Supply Firm

Gilrod Products Co. has just been organized in New York City by L. Birke to conduct a janitor supply business. Offices are located at 106 East 19th Street.

## Swift Appoints Stanton

H. C. Stanton has been made manager of the soap department of Swift & Co. He was formerly in charge of the specialty sales department.

## Marks with Lightfoot Schultz

Bernard L. Marks, who resigned recently as director of toilet soap sales for J. Eavenson & Sons, Camden, N. J., has been appointed sales manager of the Lightfoot Schultz Co., New York.

## Opens New York Office

A New York office has just been opened by Lahoud Products, Inc., soap makers of Venezuela and Porto Rico. Headquarters are located at 52-05 31st Place, Long Island City, N. Y. At present toilet and laundry soaps are being imported from the Venezuelan plant but as soon as the Porto Rican plant starts operation, which is expected to be within one or two months, shipments to New York will be filled from San Juan, Porto Rico. Gabriel Lahoud is in charge of the new plant being erected in San Juan.

## John C. Kelley Dies

John C. Kelley, formerly director of sales for Palmolive Soap Co. at Chicago, died January 21 in Aurora, Ill., following a stroke of apoplexy. He was fifty years old. A son, John Kelley, two brothers and three sisters survive.

## Form Clen-Zit Products Co.

Laboratory Products Co., 2509 W. Cermak Road, Chicago, soaps and cleansers, has just incorporated under the name Clen Zit Laboratory Products Co., consolidating its several operating companies into one corporation.

### **P & G Buy Oxene Products**

Procter & Gamble Co. has just taken over by purchase Oxene Products Co., Dayton, Ohio, and will move the Oxene plant to Cincinnati where it will be consolidated with the P & G plant there. Oxene Products was organized in 1933 by L. O. Balinger to develop and manufacture water conditioning and cleansing products. Its principal product is "Oxene."

### **Allow "Lustrux" Name**

Registration of the word "Lustrux" as a trade mark for use on dry-cleaning systems has been allowed by Assistant Commissioner of Patents Spencer in a recent decision. The mark was offered by Butler Manufacturing Co., Kansas City, and registration was opposed by Lever Bros. Co., owners of the name "Lux" for soaps. The commissioner allowed that both goods are used for the same general purpose, cleaning, but stated that beyond this he was unable to conceive of any points of similarity between them. He noted that they were unlike physically, are sold to different classes of purchasers and through different retail outlets, making the possibility of confusion in the trade remote.

### **Brady Adds to Line**

Brady Products Co., 611 West 14th St., Kansas City, Mo., manufacturers of extracts and allied products, have recently added ammonia and laundry blueing to their line. Besides the above manufactured lines this company are also distributors of cosmetics, toilet goods, soaps, and perfumes.

### **Form Haas-Miller Corp.**

Harry L. Miller, formerly vice-president and technical director of the Quaker Chemical Products Corp., Conshohocken, Penna., has resigned his position with that company to form the Haas-Miller Corp. at 4th and Bristol Streets, Philadelphia. Mr. Miller was connected with the former company for sixteen

years, being one of the original founders of the Quaker Oil Products Corporation. He will continue to manufacture textile oil products and will specialize in chemical finishing.

### **Bobrick Congress Candidate**

A. L. Bobrick, president of the Bobrick Manufacturing Co., Los Angeles, manufacturers of liquid soap dispensers and also soaps and other maintenance supplies, is a



candidate for Congress from the Twelfth California Congressional District on the Republican ticket. He has had a wide experience in business and political activities. During the NRA days, he served for nine months in Washington as Assistant Deputy Administrator handling the paper codes. He has served on several Congressional Committees. He was chairman of the Coast Division Code Committee of the Soap and Glycerine Industry. Prior to his connection with the Bobrick Company, he was general manager for the National Paper Products Co., San Francisco. Mr. Bobrick states that he is "unalterably opposed to the immature legislation of these last few years", and holds that it has helped to set back recovery several years.

### **P & G Samples Dreskin**

Procter & Gamble Co. has recently been offering free ten-cent samples of "Campana's Dreskin" in the Chicago territory to each buyer of a medium size carton of "American Family" soap flakes. The drug product is made by Campana Sales Co., Batavia, Ill. It is stated that 350,000 samples were disposed of in four days.

### **Soap Company Incorporates**

Athenia Manufacturing Co. has been incorporated under the laws of New York to manufacture soaps. Incorporation papers were filed by Harry Bergan.

### **C-P-P Wins 76c Suit**

The smallest judgment ever granted by the Somerville, N. J., district court was awarded to Colgate-Palmolive-Peet Co., recently when it won a suit for 76c interest due from Emaness Drug Co., Manville, N. J. The company had previously won a suit to collect a book account, but the debtor refused to pay interest. The soap company followed the matter up and collected the small interest charge, even though the cost of the action was a far larger amount.

### **Cosmetic Tax Repeal**

Repeal of the 5 per cent tax on dentifrices and toilet soaps, and the 10 per cent tax on other toilet preparations, so far as they apply to individual articles priced at 10 cents or less, is sought in a bill just introduced in the U. S. House of Representatives by Representative E. M. Owen of Georgia.

### **Plough Advances Eckert**

E. P. Eckert has been named divisional manager for Plough, Inc., in the territory comprising Ohio, Michigan, Indiana, Kentucky & West Virginia. He will make his headquarters in Columbus.

### **Fidelity Products Moves**

Fidelity Products Co., janitors' supplies, Philadelphia, has moved recently to new quarters at the south west corner of 13th and Montgomery Ave.

### **Premium Show in Chicago**

The sixth national premium exposition will be held in the Palmer House, Chicago, during the week of May 4-8, in connection with the convention of the Premium Advertising Association of America.

# Bayard Colgate Heads Soap Association

**S** BAYARD COLGATE, president of Colgate-Palmolive-Peet Co., was named to head the Association of American Soap & Glycerine Producers at the annual meeting of that body held January 30 at the Biltmore Hotel, New York. R. R. Deupree, Procter & Gamble Co., retiring head of the association, presided at the open session which was attended by some 60 representatives of soap companies. In his report on activities of the body over the past year, Mr. Deupree called attention to the fact that state legislatures all over the country have been considering restrictive and revenue raising measures and officials of the Association have been kept busy watching developments along this line in state capitols, and arranging to protect the interests of the soap industry and the soap-consuming public.

Commenting on the effects of the excise tax on soap costs and sales, Mr. Deupree reported the possibility of a declining soap consumption, traceable in all possibility to the higher costs necessitated by the increased prices of all fatty raw materials. Referring to the educational work once done by Cleanliness Institute, he urged the industry to keep this topic in mind and pointed out that eventually the industry will have to return to broad educational work of this kind if sales totals are to be held up.

Roscoe C. Edlund in talking on the Association's soap sales census, explained the mechanics of taking the census, and urged every manufacturer in the field to supply his figures regularly and promptly. He pointed out that the figures may be supplied in strict confidence and that even he, the sole recipient, has no knowledge of which figure comes

from each company. He stressed the importance of the industry having some guide such as these census figures in forecasting trends in soap sales.

Mr. Edlund reported that to



S. Bayard Colgate



R. R. Deupree



Roscoe C. Edlund

date 180 reports have been received from various companies having an aggregate current production of 2,385,000,000 lbs. of soap annually, with a value of \$204,000,000. If sufficient cooperation can be obtained it is planned to issue reports quarterly or even monthly. Reports will go only to those companies which themselves supply figures.

Members of the board of directors for the coming year are:

Director	Company
Homer C. Banta	Iowa Soap Co.
N. R. Clark	Swift & Co.
S. Bayard Colgate	Colgate-Palmolive-Peet Co.
F. A. Countway	Lever Bros. Co.
N. S. Dahl	John T. Stanley Co.
R. R. Deupree	Procter & Gamble Co.
G. A. Eastwood	Armour & Co.
S. S. Fels	Fels & Co.
F. H. Merrill	Los Angeles Soap Co.
W. C. Wollen	Olive Oil Soap Co.
Geo. A. Wrisley	Allen B. Wrisley Co.
C. F. Young	Davies-Young Soap Co.

Other officers selected to serve with Mr. Colgate include the follow-

ing: Vice-President for eastern states—F. A. Countway, Lever Bros. Co. Vice-President for central states—R. R. Deupree, Procter & Gamble Co. Vice-President for western states—F. H. Merrill, Los Angeles Soap Co. Secretary—W. C. Wollen, Olive Oil Soap Co. Treasurer—N. S. Dahl, John T. Stanley Co. Ass't Treasurer—A. Roy Robson, Fels & Co. Ass't Secretary & Manager—R. C. Edlund, Association of American Soap and Glycerine Producers, Inc.

The Irish Free State has set an import quota of 3,270,000 lbs. of soap, soap powder, soap substitutes, etc., for the period from December 1, 1935 to May 31, 1936.

## Malayan Soap Market

Japanese firms are reported to be making marked headway in the cheap toilet soap line in the British Malayan market. In the higher grade line, British soaps enjoy the preference, and are said to be quoted about 15 per cent under competitive American soaps. Imports have been increasing in recent years, with the total for 1934 standing at \$410,000 as against \$306,000 in the year previous.

## Dreyer Appoints Representative

P. R. Dreyer, Inc., New York, has announced appointment of J. G. Snyder of Flavors & Aromatics Supply Co., Toronto, as Canadian representative.

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...your order may  
vary in quantity...  
never in quality!*

**"STANDARD"**  
*Always a good  
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*Accuracy* is the keynote of "Standard" service; close attention to all of the processing details that assure you of a silicate supply correctly graded and uniformly true to your requirements, no matter how exacting . . . to all of the distributional details that assure you of prompt, reliable delivery, no matter what the quantity may be. Whether you use Silicate of Soda in one of its commercial forms or in special grading, we invite you to specify "Standard" as a guarantee of rigidly maintained quality.

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*Plants at*

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CINCINNATI, OHIO



### Soap Employment Lower

The index of soap employment is reported at 97.3 for December, 1935, by the U. S. Dept. of Labor, comparing with 103.7 in November and 99.6 for December, 1934. The pay-roll index registered 94.6 for December, 1935, as compared with 98.3 in November and 90.7 for December, 1934. All figures are based on the three-year average for the years 1923-1925 as 100.

### N. Y. Price Control Invalid

The constitutionality of New York State's fair trade law, the Feld-Crawford bill enacted by the 1935 legislature, was challenged by the New York State Court of Appeals in a unanimous decision handed down last month. The action on which the act was outlawed was brought by Doubleday, Doran & Co. to prevent cut-price sale of books by R. H. Macy & Co. Chief Judge Frederick E. Crane, in handing down the decision, ruled that the state has no power to fix the selling price of "any and all commodities", either directly or indirectly.

### Wants Bar Soap Agency

A concern in Lareche, Morocco, is interested in securing an agency for American bar soaps. Write U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C., mentioning inquiry No. 9780, for further information.

### Now Faesy & Besthoff

The name of the firm of Truempy, Faesy & Besthoff, New York chemical importers, has recently been changed to Faesy & Besthoff, Inc. R. A. Faesy and Silas have been the sole principals since 1930.

### Lazell Perfumer, Inc., Sold

The entire property of Lazell Perfumer, Inc., Newburgh, N. Y., was sold at auction recently on order of Harry Arnold, referee in bankruptcy. The sale included all assets of the company except about \$4,000 in accounts receivable and \$600 in cash. Federal and state liens exceeded the amount of the assets.

### New Spencer Kellogg Plant

Construction has been started on a new \$300,000 refining plant at Long Beach, Calif., for Spencer Kellogg & Sons, the new plant to be used for production of coconut oil, linseed oil and various by-products. It is expected to be completed by next May and will employ 100 persons when it goes into operation.

### Fix Glidden Fire Cause

The destruction of the soybean processing plant of the Glidden Co. in Chicago last fall was caused by an explosion of hexane gas ignited by a minor dust explosion, according to the report of chemical engineers of the U. S. Dept. of Agriculture announced Jan. 22nd. The gas apparently originated in the soybean oil extraction room where hexane was being used as a solvent to remove oil from flaked soybeans.

### Hartell Joins Forhan

Eric Hartell, formerly with Benton & Bowles, Inc., has been appointed advertising manager of The Forhan Company, New York. He has been associated with G. Allen Reeder, Inc., and with the Ronalds Advertising Agency. Forhan's will launch an advertising campaign in thirty-two magazines with the February issues.

### Drug Buyers Organize

A group of retail druggists operating stores in Newark, N. J., has organized a co-operative buying group under the name, James Drug Stores, Inc. Many of the members of the new group were formerly associated with the Independent Druggists' Alliance.

### Form Drug Sales Group

Nation Wide Drug Distributors, Inc., New York, is the name of a new national sales organization. It will operate in twenty-three cities calling on retail outlets. William H. Kemble is president of the new organization. He was formerly sales manager of the Angostura-Wupperman Corporation.

### C-P-P Fire in Kansas City

A fire in the record room of the administration building of the Colgate-Palmolive-Peet Co., Kansas City, Saturday night, January 25, caused a loss of \$2,500. With zero temperatures and a high wind the entire plant of the company was endangered by the fire for a while.

### P & G Earnings

Statement of Procter & Gamble Co. for the six months ended Dec. 31 shows net profit of \$7,883,363, equal to \$1.17 a share on 6,325,087 common shares. A fund of \$700,000 was deducted from gross earnings for materials and products price equalization. Comparative statement for the six months ended December 31, 1934, showed net profit of \$7,544,022, after deduction of \$1,965,000 for the equalization fund. For the quarter ended December 31, 1935, net profit was \$4,278,858, as compared with \$3,458,561 for the corresponding period of 1934.

### Sulfonated Oil Tests

The Sulphonated Oil Manufacturers Association has recently undertaken the preparation of informative data designed to standardize and clarify methods of analysis of sulfonated oils, as well as nomenclature and grading. In connection with the work a handbook has been issued of which some one thousand copies have already been distributed.

### Bristol-Myers Appoints

Robert B. Brown has been named advertising manager of Bristol-Myers Co., succeeding the late Howard H. Hopkins. Mr. Brown has been with Pedlar & Ryan for the past five years as account executive.

### Want Shaving Soap Agency

A concern in Istanbul, Turkey, is interested in an agency for sale of American shaving sticks and toilet soaps. Parties interested may obtain full details by addressing the U. S. Bureau of Foreign & Domestic Commerce, Washington, and mentioning inquiry No. 24.



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## New savings in Packaging Costs should interest you

You may believe that your packaging costs are as low as you can get them . . . Maybe you are right, but the chances are that a careful check-up would reveal new ways in which we could save you money.

For example, you may be operating more wrapping machines than necessary, thus carrying a heavier load in labor, floor space, and maintenance than is called for. One of our high-speed soap wrapping machines will replace two old type machines. It can be adjusted for a wide range of sizes, thus making it the equal of several machines limited to only one size. The cost of such a fast and versatile machine is quickly repaid by its savings—and from then on its economies play a helpful part on the profit side of your ledger.

### *Now is the time to modernize*

Now, when you need new savings to offset rising costs, is the time to replace obsolete equipment. Furthermore, our machines on the whole are priced lower today than ever before. Action now assures your getting the benefit of today's low prices.

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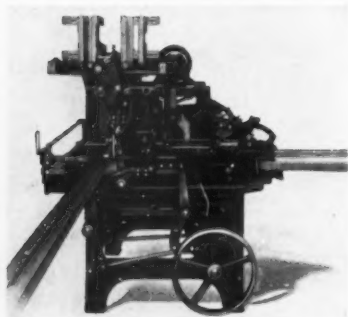
Melbourne, Australia: Baker Perkins, Pty., Ltd.

### Modern High-Speed Toilet Soap Wrapping Machine

With its speed of 150 cakes per minute, this machine can replace two of the older type machines.

By means of adjustments provided and the use of interchangeable parts, more than one size can be wrapped on the same machine.

Can be equipped to insert cardboard or circular between inner and outer wrapper.



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### Favors Oil Tax Repeal

Senator Sherman Minton of Indiana who has recently returned from the Philippines is reported to be working actively for repeal of the 3c excise tax on coconut oil imported from the Philippines. He says that the administration never intended to tax imports of oil from the Philippines for inedible use, and reports that Philippine officials are opposed to the tax in spite of promised benefits to the island's treasury.

### Organize Standard Labs., Inc.

Andrew Goodman, Louis Goodman and Max Braunstein have recently organized a new company in Youngstown, Ohio, under the name, Standard Laboratories, Inc. Chemical products will be manufactured.

### Ceylon Soap Duty Cut

Ceylon has reduced the ad valorem rate of import duty on toilet soap of non-Empire origin from 50 per cent to 35 per cent with the alternative specific rate of 40 rupees per hundredweight continuing unchanged.

### Drug Sales Up 7.2%

Total drug sales for the year 1935 amounted to \$1,262,000,000, an increase of slightly over 7 per cent from the \$1,175,000,000 total of 1934, according to a recent compilation by the publishers of *Drug Trade News*.

### Canadian Toiletries

Production of the Canadian toilet preparations industry during 1934 had a value of \$5,977,563, according to the official census figures just made public by the Dominion Bureau of Statistics. This compares with \$5,477,324 for the year 1933. Adding the totals produced by other industries we get an aggregate figure of \$6,745,513 representing the total value of all toilet preparations produced in Canada during 1934, comparing with a total of \$5,912,162 for 1933. Of this total the soap and washing compounds industry produced products valued at \$388,142, as compared with \$340,302 in 1933.

## Contracts Awarded

### Auto Soap Award

Crystal Soap & Chemical Co., Philadelphia, has recently been awarded a contract to supply the U. S. Post Office Department, Washington, with a quantity of auto soap. Bids were entered as follows: A, 5.4c lb.; B, 3.7c; C, 3.48c; D, 3.35c. American Cyanamid & Chemical Corp. was awarded the contract for supply of trisodium phosphate. Bids were entered as follows: A, 3.5c lb.; B, 2.9c; C, 2.7c.

### U.S.M.C. Soap Bids

Armour & Co., Chicago, entered low bids as follows in a recent opening by the U. S. Marine Corps, Washington, on soaps: 36,000 lbs. soap powder, 2.43c; 638 lbs. grit soap, 6.46c; 3,700 lbs. toilet soap, 7.47c. Other bidders included Swift & Co., Iowa Soap Co., Beaver-Remmers Graham Co., Procter & Gamble Co., Dixie Janitor Supply Co., and Colgate-Palmolive-Peet Co.

### Scouring Compound Award

Armour & Co. has recently been awarded a contract to supply 15,000 lbs. scouring compound powder to the branch of supply, U. S. Treasury Department, at a price of 1.03c per lb.

### T.S.P. Award to Ducas

B. P. Ducas Co. has been awarded a contract to supply 30,000 lbs. trisodium phosphate to the Brooklyn U. S. Army Quartermaster at a price of 2.35c.

### Windsor Wax Award

A contract has just been awarded to Windsor Wax Co., New York, covering 4,000 gallons of wax for the U. S. Treasury Department, Washington, at a price of 41.4c per gallon.

### Soap Award to Iowa

Iowa Soap Co. has been awarded a contract to supply the U. S. Post Office Department, Wash-

ington, with 4,500 lbs. chip soap at a price of 6.81c per lb.

### Caustic Soda Award

Pennsylvania Salt Manufacturing Co. has recently been awarded a government contract to supply the U. S. Army Quartermaster at Jeffersonville, Ind., with 2,100 cans of caustic soda at a price of 5.52c per can.

### C-P-P Glycerin Award

Colgate-Palmolive-Peet Co. has just been awarded a contract to supply 200 gallons of glycerin to Augusta Arsenal, Georgia, at \$1.50 per gallon.

### Guffey Act & Soap Bids

A recent bulletin of the Association of American Soap & Glycerine Producers advises that in the future bids to supply soap to U. S. Government agencies will have equal consideration whether or not the bidder strikes out the requirement that coal used be mined in accord with the Guffey Coal Act. It has been indicated that this requirement will be eliminated from future government requests for bids.

### Container Corp. Adds Sefton

The Container Corporation of America, Chicago, has purchased controlling interest in the Sefton National Fiber Can Company, St. Louis. The name of the firm has been changed to the Sefton Fiber Can Company and Walter P. Paepcke, president of Container Corporation, is chairman. A. J. Baumgardt, controller of the Container organization for many years, becomes president of Sefton, whose sales and operations will continue to be handled from its St. Louis headquarters.

Portugal has just increased its rate of duty on unperfumed resinous soaps from 0.05 to 0.60 gold escudos per kilo.

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PALE WOOD ROSIN



## THE *Microscope* TELLS THE *Story*

MUNN  
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● Put a chip of Munn under the microscope and examine it for purity. Note the complete absence of all foreign matter ... the absolute cleanliness of Munn.

● Munn Pale Wood Rosin has been free from all foreign matter as long as it's been made. It has to be clean because of the way it is made

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● Munn goes the limit in simplifying soap production...in improving soap quality...and in cutting down costs. Insist upon Munn. Always!

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Address Main Office 230 Park Avenue, New York City

NEWPORT

Plants: De Quincy, La.; Pensacola, Fla.; Bay Minette, Ala.



## New Trade Marks

The following trade-marks were published in the January issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

### Trade Marks Filed

**DUANE'S**—This in shaded letters describing superfatted sulfur soap. Filed by Dinet & Delfosse, Chicago, Sept. 12, 1935. Claims use since Oct. 5, 1934.

**CLARCO**—This in solid letters describing scouring powder. Filed by Clark Products Co., Lompoc, Calif., Oct. 14, 1935. Claims use since Apr. 1, 1935.

**LABORLITE**—This in outline letters describing cleanser and washing compound. Filed by Laborlite Co., Portland, Ore., Oct. 28, 1935. Claims use since Aug. 29, 1929.

**CRAIG-MARTIN**—This in solid letters describing soaps and shaving cream. Filed by Craig-Martin, Chicago, Nov. 19, 1935. Claims use since Nov. 5, 1930.

**BLACK J**—This in solid letters describing insecticides and fungicides. Filed by Jorgenson & Co., Los Angeles, Nov. 2, 1935. Claims use since Apr. 15, 1932.

**KLEENAIRE**—This in solid letters describing deodorants. Filed by Kleenaire Kemikils, Detroit, Nov. 15, 1935. Claims use since Nov. 11, 1931.

**1832**—This in solid letters describing soap. Filed by M. Werk Co., St. Bernard, Ohio, Sept. 3, 1935. Claims use since Nov. 11, 1932.

**KLOR-LENE**—This in solid letters describing dry cleaning solution for spotting. Filed by Davies-Young Soap Co., Dayton, Nov. 1, 1935. Claims use since July 15, 1935.

**DRIONIZING**—This in script de-

scribing cleaner. Filed by Gregg Co., Philadelphia, Nov. 13, 1935. Claims use since Oct. 28, 1935.

**C-Q**—This in outline letters describing soaps and cleansers. Filed by Harry I. Hull, Queens Village, L. I., N. Y., Nov. 13, 1925. Claims use since July 18, 1934.

**MAYO BROS.**—This in solid letters on circular seal crossed by band, describing tooth paste and powder. Filed by Mayo Bros. Laboratories, Los Angeles, Oct. 28, 1935. Claims use since Oct. 21, 1935.

**24-HR.**—This in solid letters describing tooth powder. Filed by Paul F. Socolofsky, New York, Nov. 12, 1935. Claims use since July 10, 1934.

**NUFIN**—This in shaded letters describing polish. Filed by Roth & White, Lancaster, Pa., Nov. 1, 1935. Claims use since Sept. 30, 1935.

**WHITE QUEEN**—This in solid letters describing soaps and cleansers. Filed by Green Bay Soap Co., Green Bay, Wis., Oct. 4, 1935. Claims use since 1898 on soap, since 1934 on soap powders, and since July 25, 1935, on cleansers.

**TERGITOL**—This in solid letters describing cleaning compositions. Filed by Carbide & Carbon Chemicals Corp., New York, Nov. 14, 1935. Claims use since Dec. 18, 1934.

**ROL-ON**—This in heavy script describing shaving cream. Filed by Stewart W. Hughes, Chicago, Nov. 29, 1935. Claims use since June, 1935.

**GAYLA**—This in solid letters describing detergent. Filed by Lever Bros. Co., Cambridge, Nov. 29, 1935. Claims use since Nov. 23, 1935.

**REWARD**—This in solid letters describing detergent. Filed by Lever Bros. Co., Cambridge, Nov. 29, 1935. Claims use since Nov. 23, 1935.

**EVERGLADES**—This on reverse plate describing insecticides. Filed by South Florida Chemical Corp., Miami, July 1, 1935. Claims use since Apr. 4, 1935.

**RITE-WAY**—This in solid letters describing insecticides. Filed by Cardinal Laboratories, Chicago, Oct. 7, 1935. Claims use since January, 1935.

**SENTINEL**—This in solid letters describing antiseptic. Filed by Forest City Rubber Co., Cleveland, Oct. 23, 1935. Claims use since Oct. 3, 1935.

**J-A-M**—This in solid letters describing insect powder. Filed by John A. Myers, Philadelphia, Nov. 14, 1935. Claims use since Nov. 2, 1935.

**IMPERIAL**—This in solid letters, together with word "Lilac," describing toilet soap. Filed by Colgate-Palmolive-Peet Co., Jersey City, Aug. 9, 1935. Claims use since Jan. 31, 1910.

**LOYAL**—This in solid letters describing household cleaner and soap. Filed by Royal Soap & Chemical Co., Los Angeles, Oct. 4, 1935. Claims use since July 16, 1931.

**OLD SMOOTHIE**—This in solid letters describing brushless shaving cream. Filed by Old Smoothie Co., Seattle, Dec. 9, 1935. Claims use since Nov. 20, 1935.

**FLOROTONE**—This in broken letters describing soap. Filed by Procter & Gamble Co., Cincinnati, Dec. 9, 1935. Claims use since Sept. 20, 1935.

**VISTANEX**—This in solid letters describing cleaning compound. Filed by Standard Oil Development Co., Linden, N. J., Dec. 10, 1935. Claims use since July 19, 1935.

**MOSQUITOZOFF**—This on reverse plate describing liquid for repelling insects. Filed by Bohlender Plant Chemicals, Inc., Tippacanoe City, Ohio, Nov. 27, 1935. Claims use since Mar. 5, 1935.

**SEA MAID**—This in solid letters describing bath salt. Filed by Standard Salt Corp., New York, Nov. 29, 1935. Claims use since Nov. 21, 1935.

**FUM-I-POL**—This in solid letters describing furniture polish. Filed by Glidden Co., Cleveland, Nov. 8, 1935. Claims use since Oct. 24, 1935.



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**AROMATIC CHEMICALS**  
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No. 170  
**PORTABLE SOAP  
SPRAYER**

TAKE THE **RUB** OUT OF  
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Spray Soap or Cleaner  
WITH  
A Dobbins Superbilt  
High Pressure  
**SOAP SPRAYER**

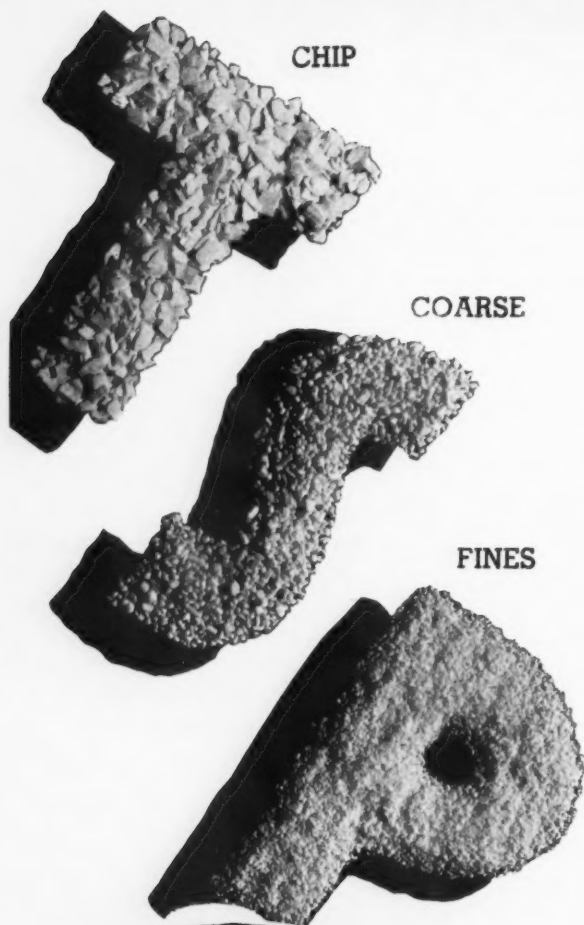
The cleaning solution penetrates into the floor surface, cracks and pits that are not touched with brush or mop. The film of soap dissolves the dirt. Pick it up with a moist mop and you have a quick clean job.

*Write NOW for Descriptive  
Circular*

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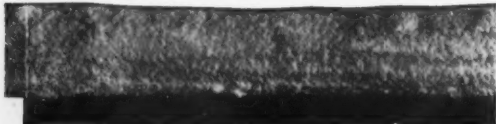
## Trade Marks Granted

- 331,350. Soap. Polk Miller Products Corp., Richmond, Va. Filed August 23, 1935. Serial No. 368,626. Published October 29, 1935. Class 4.
- 331,351. Soap. Polk Miller Products Corp., Richmond, Va. Filed August 23, 1935. Serial No. 368,627. Published October 29, 1935. Class 4.
- 331,352. Soap. Polk Miller Products Corp., Richmond, Va. Filed August 23, 1935. Serial No. 368,628. Published October 29, 1935. Class 4.
- 331,353. Soap. Polk Miller Products Corp., Richmond, Va. Filed August 23, 1935. Serial No. 368,630. Published October 29, 1935. Class 4.
- 331,354. Flea Powder. Polk Miller Products Corp., Richmond, Va. Filed August 23, 1935. Serial No. 368,631. Published October 22, 1935. Class 6.
- 331,357. Flea Powder. Polk Miller Products Corp., Richmond, Va. Filed August 26, 1935. Serial No. 368,704. Published October 22, 1935. Class 6.
- 331,379. Shaving Cream and Brushless Shave. Colgate-Palmolive-Peet Co., Jersey City, N. J. Filed August 9, 1935. Serial No. 368,129. Published October 29, 1935. Class 4.
- 331,380. Shaving Cream and Brushless Shave. Colgate-Palmolive-Peet Co., Jersey City, N. J. Filed August 9, 1935. Serial No. 368,128. Published October 29, 1935. Class 4.
- 331,382. Floor and Automobile Wax. Morton Products, Bronx, N. Y. Filed August 7, 1935. Serial No. 368,091. Published October 15, 1935. Class 16.
- 331,403. Toilet Soaps. John Wanamaker Philadelphia, Philadelphia. Filed September 17, 1935. Serial No. 369,425. Published October 29, 1935. Class 4.
- 331,426. Shaving Cream. Tryon, Inc., Danbury, Conn. Filed July 1, 1935. Serial No. 366,889. Published October 29, 1935. Class 4.
- 331,482. Toilet Soap. Shaving Soap, etc. Kerk Guild, Inc., Utica, N. Y. Filed September 12, 1935. Serial No. 369,230. Published October 29, 1935. Class 4.
- 331,483. Shaving Granules. Livingston Co., West Hartford, Conn. Filed September 11, 1935. Serial No. 369,187. Published October 29, 1935. Class 4.
- 331,515. Insecticides, Fly Spray, and Stock Dip. Southern Independent Oil and Refining Co., Evansville, Ind. Filed September 7, 1935. Serial No. 369,111. Published October 29, 1935. Class 6.
- 331,519. Moth Proofing Compound. Merck & Co., Rahway, N. J. Filed September 6, 1935. Serial No. 369,061. Published November 5, 1935. Class 6.
- 331,533. Flea Powder. Polk Miller Products Corp., Richmond, Va. Filed August 26, 1935. Serial No. 368,706. Published November 5, 1935. Class 6.
- 331,554. Bleach, Disinfectant, Deodorant and Cleanser. Uddo Taormina Corp., New Orleans. Filed August 7, 1935. Serial No. 368,085. Published October 29, 1935. Class 6.
- 331,574. Prepared Wax for Polishing. L. R. Van Allen & Co., Chicago. Filed August 30, 1934. Serial No. 355,598. Published November 5, 1935. Class 16.
- 331,579. Insecticides. Roxor Corp., Nashville. Filed July 3, 1935. Serial No. 366,963. Published October 29, 1935. Class 6.
- 331,580. Dental Cream and Powder. Colgate-Palmolive-Peet Co., Jersey City, N. J. Filed August 9, 1935. Serial No. 368,130. Published November 5, 1935. Class 6.
- 331,606. Insecticides for Poultry. Tobacco By-Products and Chemical Corp., Louisville. Filed May 28, 1935. Serial No. 365,535. Published November 5, 1935. Class 6.
- 331,621. Tooth Powder. B. & B. Laboratories, Los Angeles. Filed July 2, 1935. Serial No. 366,899. Published November 5, 1935. Class 6.
- 331,669. Furniture Polish. Aurora Polish Co., Steubenville, Ohio. Filed September 23, 1935. Serial No. 369,627. Published November 5, 1935. Class 16.
- 331,719. Antiseptic. Sharp & Dohme, Inc., Philadelphia. Filed September 26, 1935. Serial No. 369,746. Published November 12, 1935. Class 6.
- 331,769. Hand, Face, and Body Soap. Dan Seman, New York. Filed May 9, 1935. Serial No. 364,701. Published November 12, 1935. Class 4.
- 331,792. Powdered Cleaning Compound. Nu Way Laboratories, Cullom, Ill. Filed September 7, 1935. Serial No. 369,093. Published November 12, 1935. Class 4.
- 331,817. Soapless Shampoo. Geida Co., Allentown, Pa. Filed August 5, 1935. Serial No. 367,993. Published November 12, 1935. Class 6.
- 331,820. Automobile and Furniture Polish. Sta-Wax Products Co., Mangum, Okla. Filed July 31, 1935. Serial No. 367,859. Published November 12, 1935. Class 16.
- 331,877. Furniture and Automobile Polish. Wilbert Products Co., New York. Filed March 21, 1935. Serial No. 362,853. Published November 19, 1935. Class 16.
- 331,881. Detergent Compound. Lever Brothers Co., Cambridge. Filed September 28, 1935. Serial No. 369,818. Published November 12, 1935. Class 4.
- 331,902. Cleaning Fluid Dispensing Device Used to Clean Rugs, Carpets, Upholstery, and Other Fabrics. Keystone Chemical Co., Cleveland. Filed April 1, 1935. Serial No. 363,286. Published November 12, 1935. Class 23.
- 331,924. Shampoo. Fairy-foot Products Co., Chicago. Filed August 10, 1935. Serial No. 368,170. Published November 12, 1935. Class 6.
- 331,958. Insecticides. Soilicide Laboratories, Upper Montclair, N. J. Filed August 30, 1935. Serial No. 368,854. Published November 19, 1935. Class 6.
- 331,972. Compound for Bleaching, Deodorizing and Disinfecting. Nu-Way Wash Products Co., Chicago. Filed August 22, 1935. Serial No. 368,574. Published November 19, 1935. Class 6.
- 331,975. Cleaner. Youngstown Paint & Glass Co., Youngstown, Ohio. Filed September 25, 1935. Serial No. 369,725. Published November 19, 1935. Class 4.



A brilliant white, free-flowing and non-caking tri-sodium phosphate of uniformly high quality. Four grades as illustrated.

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**CAUSTIC POTASH**

FLAKE	SOLID	LIQUID
88/92%	88/92%	45%

**CAUSTIC SODA**

FLAKE	SOLID	LIQUID
<p><i>For Manufacturers of</i> SOAPS, OIL SOAPS, DRY CLEANING SOAPS, LIQUID SOAPS AND TEXTILE SPECIALTIES</p>		

•

Turner Caustic Potash and Caustic Soda may be given any test you choose. Produced under a rigid system of control, they are doubly checked in the process of manufacture.

Turner chemicals are uniform and of the highest standard . . . backed by years of thorough and dependable service . . . yet priced to meet competition.

•

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**JOSEPH TURNER & Co.**  
500 Fifth Avenue • New York

83 EXCHANGE PL., PROVIDENCE, R. I.

*Suppliers of Chemicals  
for over 70 years*



## New Equipment

**I**F YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

### 199—Nickel-clad Steel

Lukens Steel Co., Coatesville, Pa., has issued a new bulletin on the fabrication of "Lukens" nickel-clad steel. Copies are available.

### 201—Heat Exchange

Struthers-Wells Co., Warren, Pa., has issued a new 16-page bulletin describing their complete line of heat exchange equipment.

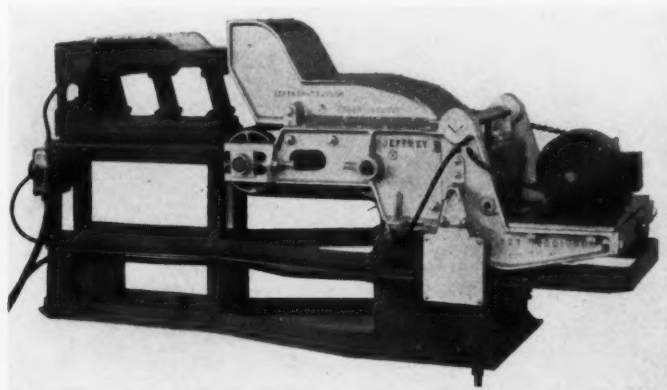
### 202—Weight Feeder

Jeffrey Manufacturing Co., Columbus, Ohio, has announced development of a new constant weight feeder for continuously feeding and

in company listings as the "UC" type. It is especially built for handling gritty substances and is fitted with a variable pitch propeller of three-blade type, making it possible to vary pitch to adjust propeller to viscosity and specific gravity of material being agitated and to make use of maximum horsepower available without overload.

### Limit Drug Dinner Seats

The committee in charge of the eleventh annual New York drug, chemical and allied trades dinner, scheduled for March 19th, has announced that reservations will be limited to 1200, which is the maximum that the ground floor of the Hotel Waldorf-Astoria's grand ballroom will accommodate. Seat sale is in charge of B. J. Gogarty, Commercial Solvents Corp.



weighing materials at accurate rates. The unit is said to be accurate to plus or minus 1 per cent or less and has a range of capacity from 3 to 3,000 lbs. per hour. It operates on A.C. current. The cabinet control box can be located at the feeder, or some distance away, using any number of remote control devices.

### 203—New Agitator

Patterson Foundry & Machine Co., East Liverpool, Ohio, is introducing a new type agitator described

### Package Show March 3-6

The sixth annual packaging exposition is scheduled to open March 3 at the Hotel Pennsylvania, New York, continuing through March 6. The dead line for entries has been set at February 17.

### Cyanamid Appoints Shepard

Dr. Norman A. Shepard has been appointed director of technical service for American Cyanamid Co. and other companies in the Cyanamid

group. He will be in charge of the technical service laboratories of the company located in Stamford, Conn.

### Weaver & Hugi Move

Weaver & Hugi, Inc., New York, brokers in tallow and greases, moved recently to new and larger offices in suite 429 in the New York Produce Exchange Building.

Roland Gard Co., Los Angeles, is distributing a diaper cleanser sold under the name "Didy-Kleen". The new product is a soapless cleaning compound.

## Publications

### 196—Fat Prices

Davidson Commission Co., Chicago, has recently issued its annual compilation of high and low records of fat and oil prices for the past ten years. Prices are included for the years 1925-1935 for various grades of tallow, greases, stearine, corn oil, cotton oil, soap stock, etc. Copies are available on request.

### 197—Essential Oil Report

The annual Schimmel report on essential oils and synthetic aromatics is now being distributed in United States by Schimmel & Co., New York. Readers of SOAP may obtain copies by addressing the company direct at 601 W. 26th St., New York, or through the publishers of SOAP. While a complete review is impractical in these columns, we may point out that users of perfuming materials have long looked on the annual Schimmel report as an important treatise on recent developments in the aromatic field.

### 198—Fumigation Bulletin

Innis, Speiden & Co., New York, has just issued a new booklet on home fumigation work with "Larvacide", (chlorpicrin). Penetration, toxicity, safety features, equipment and application methods are all covered and diagrams and pictures



**RAW MATERIALS**

**FOR THE SOAP INDUSTRY**


**FROM ALL PARTS OF THE WORLD**

**COMMERCIAL  
OLIVE OIL**

**D**ISTRIBUTED by an organization that prides itself in making available to the makers and producers of high grade soaps the finest materials obtainable from the markets of the world. An organization whose sole object for five generations has been dependable standard of quality and service to an ever expanding industry.

Fatty Acids Perilla Oil Neatsfoot Oil Coconut Oil Cottonseed Oil Palm Kernel Oil Stearic Acid	Oleo Stearine Soya Bean Oil Palm Kernel Oil Olive Oil Foots Rapeseed Oil Teaseed Oil Castor Oil Sesame Oil	Lard Oil Palm Oil Corn Oil Peanut Oil Grease (Animal) Tallow Red Oil Soap Colors	Chlorophyll Soda Ash Sal Soda Talc Trisodium Phosphate Caustic Potash Carbonate of Potash Bath Powder	Modified Soda Caustic Soda Silicate of Soda Meta Silicate and Metso "CEREPS" Superfating Agent
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**WELCH, HOLME & CLARK CO., Inc.**  
 563 GREENWICH STREET, NEW YORK CITY  
*Established 1838*



## The Schimmel Compound Service

Extensive scientific research and its practical application for over a century has uniquely fitted the Schimmel laboratories to solve the varied compound problems which confront the soap manufacturer.

This experience and knowledge are at your service. When you need advice and assistance in the creation of new scents, write Schimmel.

## SCHIMMEL & CO., Inc.

601 WEST 26th STREET

NEW YORK, N. Y.

are included. Buffalo moth, clothes moth, bedbugs and vault work are discussed in detail with explanations both by text and illustration of the latest methods of fumigation. Copies are available without charge to fumigators on request to the company headquarters at 117 Liberty Street, New York, or to any branch office. Mention the name of SOAP in writing.

#### 200—Felton Aromatics

Felton Chemical Co., Brooklyn, has issued a very attractively printed new catalog and price list. Perfume bases are listed for soap, insecticides, cleaning fluids, polishes, waxes, para blocks, bath salts, etc. Copies are available on request.

#### Billy Van Speaks

Billy B. Van, president of the Pine Tree Products Co., Newport, N. H., soap makers, was on the program to help dramatize the merchandising plans of the National Brand Stores, Inc. before the convention of that organization at the Medinah Club, held in Chicago January 16th and 17th.

#### Rauer of Fitch Back

Max Rauer, chief chemist of the F. W. Fitch Co., accompanied by Mrs. Rauer and Max Jr., passed through Chicago recently on their way back to Des Moines following an extended European trip.

#### Armstrong Sales Meeting

Members of the sales organization of the closure division of the Armstrong Cork Products Company, as well as distributors and agents of the Company, attended a sales meeting held from January 20th to January 23rd. The first day's meeting was held at the company's factory in Pittsburgh and the remainder of the sessions were held at the company's general offices in Lancaster, Pa. Among the speakers was J. E. Hatt, general manager, DuPont Cellophane Co. S. L. Barnes of the metal and molded caps department of Armstrong also spoke, as did M. S. Ireys of the advertising department.

#### Wrisley Appoints Committees

Chicago Perfumery, Soap and Extract Association met at the Lake Shore Athletic Club February 4th. George A. Wrisley, the new president, presided over the meeting which was devoted chiefly to the discussion of legislative matters. In behalf of the members J. H. Helfrich presented the retiring secretary, W. Kedzie Teller, with a sterling silver centerpiece as recognition of his many years of service to the association. Committee chairmen for 1936 have been appointed as follows: Executive—George A. Wrisley; Legislative—J. H. Helfrich; Membership—Dudley F. Lum; Entertainment—W. H. Schutte and R. A. Morris; Publicity—W. Kedzie Teller; Golf—R. L. Holland; Bowling—C. A. Seguin.

#### Wright Represents Robertson

T. B. Robertson Products Co., Chicago soap and sanitary products manufacturers, announce the appointment of M. C. Wright as sales representative to cover Illinois, calling on jobbers and institutions.

#### Prahl Heads Owens Can

As the first step in rounding out its general container line, Owens-Illinois Glass Co., Toledo, has taken over the plants of Tin Decorating Co., Baltimore subsidiary of American Tobacco Co., and Enterprise Can Co., McKees Rocks, Pa. It is planned to form the Owens-Illinois Can Co. as a wholly owned subsidiary and further purchases may be announced shortly. Fred A. Prahl, formerly vice-president of the Continental Can Co., heads the new firm.

#### Wax Importers Elect

W. F. Leary of Wm. M. Allison & Co. was elected president of the New York Wax Importers' Association at the recent annual meeting. Other officers are: E. Strahl, Strahl & Pitsch, vice-president; R. E. Sievert, Frank B. Ross Co., treasurer; and Charles Christman, Smith & Nichols, secretary.

Beaumont Chemical Co., formerly of 2894 Magnolia Ave., Beau-

mont, Texas, is now located at 6101 Washington Ave., Houston, Texas.

#### Newman Buys Holman Plant

Newman Tallow and Soap Machinery Co., Chicago, announce the purchase of all real estate, equipment, etc. formerly owned by the Holman Soap Co., Chicago. The business of the Holman company was liquidated a short time ago.

#### Housefurnishing Exhibitors

Exhibitors at the Ninth Annual National House Furnishing Show, held at the Stevens Hotel last month included many manufacturers of cleaners, polishes, waxes and insecticides. The list included Apex Moth Products, Betts Products Co., Du-All Mfg. Co., Golden Star Polish Mfg. Co., S. C. Johnson & Son, Inc., Midway Chemical Co., Milton Chemical Co., Neverub Corp., O'Cedar Corp., Rubon Woodfinishing and Products Co., Rusko Products Co., Vapoo Products Co., Wilbert Products Co., Inc. and Wizard, Inc.

#### Merck Auto Line

Merck & Co., Rahway, N. J., are bringing out a new line of automotive specialties under the name "Sovereign", including a radiator and engine cleaner and an upholstery and fabric cleaner.

#### Wants Toilet Soap Agency

A concern in Cali, Colombia, is interested in securing an agency for American toilet soaps. For further information, communicate with U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C., mentioning inquiry No. 9851.

#### Check "Zep" Advertising

A cleaning fluid called "Zep" will no longer be advertised as "non-injurious" to fabrics in connection with its sale as a cleaner, nor will the phrase "Will not form rings", be used in connection with its sale, according to a stipulation signed by Harry Kantrowitz, Aaron Gershon, and Benjamin Schreiber of New York.



MEMBERS NEW YORK PRODUCE EXCHANGE

## RAW MATERIALS for the soap and allied industries

Consider this when you choose your source of supply

Every conceivable raw material for the manufacture of soap or similar products is carried in stock and ready for immediate delivery to your door. Eastern is serving the leaders of the industry and stands ready to give you the same prompt and efficient service—and at a price that is right.

**COCOANUT OIL • TALLOW • OLIVE OIL • FOOTS**  
**CAUSTIC SODA** liquid . . . flake . . . solid **CAUSTIC POTASH**  
**DRUMS** **TANK WAGONS** **TANK CARS**

## EASTERN INDUSTRIES, INC.

VEGETABLE OILS, ANIMAL OILS, FATS, CHEMICALS

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Harrison, N. J.

ALCOHOL  
AMMONIA  
BLEACHING POWDER  
BORAX  
BICARBONATE OF SODA  
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CARBON TETRACHLORIDE  
CAUSTIC SODA  
CAUSTIC POTASH  
DYES  
DISODIUM PHOSPHATE  
GLASSERS SALTS  
GLYCERINE  
METASILICATE  
OXALIC ACID  
POTASSIUM CARBONATE  
REAL AMMONIAC  
SALT  
SAL SODA  
SILICATE OF SODA  
SODA ASH  
TRISODIUM PHOSPHATE

CASTOR OIL  
COCOANUT OIL  
CORN OIL  
COTTONSEED OIL  
LARD OIL  
NEATSFOOT OIL  
OLEIC ACID-RED OIL  
OLIVE OIL  
OLIVE OIL FOOTS  
PALM OIL  
PALM KERNEL OIL  
PEANUT OIL  
RAPESEED OIL  
RESIN  
SALAD OIL  
SOYA BEAN OIL  
SESAME OIL  
TEASEED OIL  
WHITE OLEINE  
FATTY ACIDS  
STEARINE  
STEARIC ACID  
GREASE  
TALLOW

## CRESYLIC ACID AROMATICS

PHENYL ETHYL ALCOHOL BENZYL ACETATE  
GERANIOL BENZYL ALCOHOL  
CITRONELLOL BENZOPHENONE  
ACETOPHENONE AMYL CINNAMICALDEHYDE

For Soaps, Perfumes, Cosmetics, etc.

## AMERICAN-BRITISH CHEMICAL SUPPLIES, Inc.

180 Madison Ave.,

New York, N. Y.

ASSOCIATED COMPANIES

KAY-FRIES CHEMICALS, INC.  
NEW YORK, N. Y.

CHARLES TENNANT & CO. (CANADA) LTD.  
TORONTO, CANADA



# Raw Material Markets

As of February 6, 1936

**N**EW YORK—The market for raw materials used in the manufacture of soaps and sanitary products was very active during the period just closed, with a number of important changes. In the oil and fat group the imported oils and oil bases were generally higher, while the domestically produced fats tended generally lower. Price changes were numerous and of substantial proportions. Buyers were reported to be inactive, waiting for the many implications of the present situation to become a little clearer before making important commitments.

In the chemical list the most important price change noted came in the alcohol list where a substantial decline was reported. Cresylic acid prices were reported firm, with stocks light. A series of price changes featured the perfuming material markets. Among the oils to drop in price were anise, bergamot, cedarwood, citronella and lemon. In the aromatic list safrol, terpineol and geraniol were quoted lower. On the up side of this group were cedar leaf and clove.

## FATS AND OILS

### Coconut Oil

Coconut oil and copra scored good advances this period, with reports indicating that European buyers are showing a substantial interest in the market. Copra is now quoted on the coast at 2 9/10c per lb., with offerings limited. New York tanks of Manila oil are currently held at 5c per lb., an advance of half a cent from the figure of a month ago. At the higher figure domestic users have shown a tendency to lose interest in the market.

### Corn Oil

At the close of the period corn oil was down a cent a pound from

last month's quotation, with a price of 9 1/4 to 9 1/2c per lb. being quoted on mill tanks. At one point the market had gone even lower than the 9 1/4 figure, but a firmer tone was developed later in the period.

### Grease

The grease list was off half a cent a pound this period from last month's level, with house and yellow grades being quoted at 5 1/4 to 5 1/2c per lb. Even at the decline there was little tendency on the part of purchasers to expand their activities, they being apparently willing to await further developments.

### Lard

Lard extended this period the decline started last period, dropping another three-quarters of a cent to 11 1/2c per lb. As a result of the AAA decision there has been a tendency on the part of farmers to speed their hogs to market, and to date this has resulted in a natural decline in prices due to the increased supply. Cottonseed oil prices have also been lower, tending to affect other competing products such as lard.

### Palm Oil

In company with coconut oil, palm and palm kernel oil gained in price this period, with gains ranging from a quarter to a half a cent.

### Tallow

To date the AAA decision has had but little effect on the price of tallow. City extra eased off another fraction this period to be quoted at 6 5/8c per lb., but the market was distinctly steady. Perhaps the fact that the price of foreign tallow still remains above a parity with the domestic price had much to do with this steadiness. Soap makers have recently shown more interest in the tallow market, but sales have been mainly for small quantities. Offerings are reported to be light.

## CHEMICALS

### Alcohol

Unsettlement in the alcohol market over recent weeks resulted this period in an announcement by leading distillers of a cut of several cents a gallon on all grades of alcohol for industrial purposes. The lower schedule is for delivery prior to April 1, and brings the solvent grade down to 29c per gallon in tank cars. Car lot drum, barrel and l.c.l. prices range progressively upward. The reductions also applied to pure ethyl alcohol, with the barrel price now ranging between \$4.13 and \$4.25 per gallon.

### Alkalis

Shipments of soda ash and caustic soda were reported highly irregular, with users apparently seeking to hold down withdrawals to actual current needs pending some clarification as to the possible future course of general business activity. Caustic potash sellers report that the soap industry continues to take good tonnage of this raw material.

### Coal-Tar Products

In the coal-tar market, crude naphthalene, cresylic acid and solvent naphtha are reported to be in short supply. Prices are generally firm at the advances recently put into effect.

### Rosin

Rosin quotations were lower this period on most grades, although the declines were not great. Arrivals so far this season have been light due to unseasonable weather. The slackness of domestic demand, however, and the recent decline in call from the export market, have offset any tendency to advance prices.

## PERFUMING MATERIALS

### Anise Oil

While there has been no reported change in the firm primary market position of this oil, local market prices have eased off over the

# A NEW DETERGENT ALPHASOL<sup>\*</sup> OT

As little as one tenth of one percent (one part of Alphasol OT in a thousand of water) gives a solution with remarkable cleaning properties.

A neutral solution containing no alkali to harm the most sensitive materials.

A clear solution which leaves no streaky residue to be removed by rinsing.

A "soft" solution which precipitates no gummy, insoluble soaps with hard water.

Alphasol OT is offered only to manufacturers and distributors of cleaning compounds for development and use in their own products; and to others for industrial applications involving the reduction of the surface tension of liquids to increase wetting power and penetration and to improve emulsions.



## AMERICAN CYANAMID & CHEMICAL CORPORATION

30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

<sup>\*</sup>Trademark

American Cyanamid & Chemical Corporation,  
30 Rockefeller Plaza, New York, N. Y.

Sirs: Please send me a free sample of Alphasol<sup>\*</sup> OT for  
use in .....

Name .....

Firm ..... Title .....

Address .....

City ..... State .....

## RELIABLE BASIC CHEMICALS

**CAUSTIC POTASH** 88-92% — Imported and Domestic.  
Flake — Solid — Granular — Broken — Walnut —  
Liquid. *Various packages.*

**CARBONATE OF POTASH**—Imported and Domestic.  
Calcined 96-98% — 98-100%  
Hydrated 83-85% — Liquid 47-48%

**CAUSTIC SODA**—Prime 76%. Our own product. Flake  
— Crystal — Solid. *Various packages.*

**ISCO SILVER TALC**—From America's purest deposit.  
Noted for its uniform whiteness and excellence.

**CHLORIDE OF LIME** (Bleaching powder)

**STEARIC ACID**—Triple pressed. Low Iodine number.

**BORAX**—Powdered—Crystals—Granulated.

**LANOLIN—WAXES—ZINC OXIDE**  
— **OLEIC ACID — AQUAPHIL**

**LARVACIDE** (Chlorpicrin) The Safer—self-announcing  
Fumigant, for Insect and Rodent control.



## INNIS, SPEIDEN & CO.

*Industrial Chemicals Since 1816*

117-119 Liberty Street

New York

BOSTON, PHILADELPHIA, CLEVELAND, CHICAGO, GLOVERSVILLE, N. Y.

*Factories: Jersey City, N. J. and Niagara Falls, N. Y.*

past month due to the light demand. Quotations are now on the basis of 50 to 55c per lb., a reduction of 5c from a month ago.

#### **Bergamot Oil**

Quotations on bergamot oil continued to recede this period, dropping by successive stages down to an inside figure of \$1.65 per lb. There has been considerable competition in the market and buying interest has been slack.

#### **Cedar Leaf Oil**

Spot prices on cedar leaf oil shot up this period to 90c per lb., an advance of 30c from the level of last period. Producers report that they have been having difficulty getting labor to work their stills and are unable to deliver oil against contracts.

#### **Citronella Oil**

Both Java and Ceylon oil again declined this period, the former going to 25 and the latter to 20c per lb. Competition is very strong locally, and replacements are reported easy.

#### **Safrol**

Safrol was quoted lower this period at 54 to 57c per lb., the drop reflecting the recent developments in cost of raw materials. Geraniol and terpineol were also quoted lower in a competitive market.

#### **Whale Oil Price Higher**

Reports from London indicate that crude whale oil is now selling at \$90 to \$100 per ton, as compared with a low level of \$40 to \$50 during recent years. The season opened on December 1, 1935, and reports to date indicate that a satisfactory catch is being obtained. The fishing season has been shortened this year to preserve the stock of whales and curtail production as well.

#### **Grasselli Elects Furst**

E. W. Furst has been named president of Grasselli Chemical Co., succeeding Thomas S. Grasselli who resigned last month after his election as a vice-president of E. I. du Pont de Nemours & Co. Mr. Furst was formerly vice-president of Grasselli, du Pont subsidiary.

#### **Addington Doolittle Dies**

Addington Doolittle, head of Compagnie Parento, Inc., Croton-on-Hudson, N. Y., died in Los Angeles, Jan. 17 after a brief attack of pneumonia. He was on a western trip at the time, visiting the branch offices of the company in Los Angeles, San Francisco, Seattle and Portland. Prior to the organization of Compagnie Parento, Mr. Doolittle had been connected with a number of firms in the cosmetic and drug field and had spent his entire life in this industry. He was a charter member and former president of the Croton Rotary Club, a member of the New York Athletic Club and of Collabergh Lodge F. and A. M. He is survived by his wife, Anna Louise Doolittle, two daughters, Louise and Jean Doolittle and his mother, Mrs. Kate H. P. Doolittle. Funeral services were held from his late home, Croton-on-Hudson, New York, Jan. 23, with interment at Utica, his birth place.

#### **Wilmer With Fritzsche**

R. W. Wilmer joined Fritzsche Bros., Inc., New York essential oil house, early last month, taking over the position of advertising manager. Mr. Wilmer was formerly with the "Manufacturing Confectioner".

#### **Kammer Joins Hockey Team**

A. F. Kammer, Jr., member of the sales staff of American Can Co., has been given a leave of absence by the company, enabling him to join the U. S. hockey team in the present Olympic games. In his collegiate days Kammer was a member of the Princeton six.

#### **Oil and Fat Summary**

A bulletin containing a series of articles dealing with the excise tax on fats and oils has just been issued by the Conference of Domestic Oils and Fats as a part of their publicity campaign to urge retention of the excise taxes. Several articles point out that the U. S. oils and fats industries are now prosperous as a result of the taxes and urge their

retention to guarantee that the American farmer will continue to get high prices for his output. They point out that Philippine-American trade is not seriously affected by the tax, since although the volume of coconut oil imports has been lower, their dollar value has increased.

#### **Shipkoff Otto of Rose**

Compagnie Parento, Inc., Croton-on-Hudson, N. Y., has issued an announcement calling the attention of the trade to the fact that two brands of otto of rose are currently being offered under the name "Shipkoff". They advise that oil of this brand was originally made solely by one concern, Shipkoff & Co., now no longer existent. Two new companies were subsequently formed, P. K. Shipkoff & Co., Kazanlik, Bulgaria, and Theodore Shipkoff & Co., Sofia, Bulgaria, the former now represented by Parento. Charles L. Huisking & Co., New York, have been American agents for the Sofia Company for several years past.

#### **Cleaning Fluid Advertising**

Monroe Chemical Company, Quincy, Ill., manufacturing a cleaning fluid, will discontinue in the sale of its product the use of certain words or phrases which may tend to deceive buyers into believing that the colors of fabrics dyed with non-fast or fugitive dyes will not be harmed by application of the respondent's product, or that the product will not leave a stain, mark or ring when applied to spots on certain fabrics or materials. Use of the phrases, "Removes spots without injury to color or fabric", and "Will not leave a ring", will be discontinued by Klink Products Corporation, of Brooklyn, manufacturer of two cleaning fluids, known as "Klink" and "Clean-Tex".

#### **New Red Cap Package**

C. M. Kimball Co., Everett, Mass., is now packing "Red Cap" silver cleaner in jars that can be used for many purposes in the home when empty.

# KRANICH SOAPS

## LIQUID SHAMPOO BASE

Coco Oil 60%  
Olive Oil 60%  
Natural, Opal, Green

LIQUID SOAPS  
Coconut, 10%-15%  
20%-40% Concentrate  
Colored and Perfumed

## SCRUBBING SOAPS

Pine-Sassafras  
Plain

LIQUID  
SHAMPOOS  
Coconut Oil-30%-45%  
Olive Oil-30%  
Castile-30%

## POWDERED SOAPS

Castile U.S.P.  
Coco Castile 50-50  
Pure Coconut  
Pure Palm

## POTASH SOAPS

Soft and Hard  
U.S.P. 9<sup>th</sup> and 10<sup>th</sup>

## HARD AUTO SOAPS



Kranich Standard Soaps are manufactured and produced entirely in our own factory. All our oils and fats are processed and purified before use. All alkalies are dissolved and settled to remove impurities. All our processes are technically supervised and a chemical analysis made on all finished products to assure satisfaction to our trade.



# KRANICH SOAP CO., Inc.

54-60 RICHARDS ST., BROOKLYN, N.Y.

# SOLVAY

TRADE MARK REG. U. S. PAT. OFF.



# P R O D U C T S

## SODA ASH CAUSTIC SODA CAUSTIC POTASH

Liquid — Solid — Flake

## LIQUID CHLORINE

Contract or Spot Delivery

In tank cars and multiple unit cars

*Write for Prices*

SODA ASH . CAUSTIC SODA . AMMONIUM CHLORIDE  
CHLORINE . MODIFIED SODAS . CALCIUM CHLORIDE  
Salt . Caustic Potash . Ammonium Bicarbonate  
nate . Causticized Ash . Para-Dichlorobenzene  
Sodium Nitrite . Potassium Carbonate

## SOLVAY SALES CORPORATION

*Alkalies and Chemical Products Manufactured by  
The Solvay Process Company*

40 RECTOR STREET NEW YORK

Boston, Syracuse, Chicago, Indianapolis, Cleveland,  
Cincinnati, Pittsburgh, Detroit, Philadelphia,  
Kansas City, Houston, St. Louis, Charlotte, New York



# Raw Material Prices

(As of February 6, 1936)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

## Chemicals

Acetone, C. P., drums.....lb.	\$ .11	\$ .12½
Acid, Boric, bbls., 99½%.....ton	95.00	100.00
Cresylic, drums.....gal.	.51	.53
Low boiling grade.....gal.	.64	.65
Oxalic, bbls.....lb.	.11½	.12¼
Adeps Lanae, hydrous, bbls.....lb.	.16	.18
Anhydrous, bbls.....lb.	.17	.19
Alcohol, Ethyl, U. S. P., bbls.....gal.	4.13	4.25
Complete Denat., SD 1, drums, ex. gal.	.33	.43
Alum. Potash lump.....lb.	.03¼	.03½
Ammonia Water, 26°, drums, wks....lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls....lb.	.08	.12½
Bleaching Powder, drums.....100 lb.	2.25	2.60
Borax, pd., cryst., bbls., kegs.....ton	50.00	55.00
Carbon Tetrachloride, car lots.....lb.	—	.05¼
L. C. L.....lb.	.07	.08½
Caustic, see Soda Caustic, Potash Caustic		
China Clay, filler.....ton	10.00	25.00
Cresol, U. S. P., drums.....lb.	.11	.11½
Creosote Oil.....gal.	.11½	.12½
Feldspar.....ton	14.00	15.00
(200 to 325 mesh)		
Formaldehyde, bbls.....lb.	.06	.07
Fullers Earth.....ton	15.00	24.00
Glycerine, C. P., drums.....lb.	.14	.14½
Dynamite, drums.....lb.	.13¾	.14½
Saponification, drums.....lb.	.10¼	.11½
Soap lye, drums.....lb.	.09¼	.09½
Hexalin, drums.....lb.	—	.30
Kieselguhr, bags.....ton	—	35.00
Lanolin, see Adeps Lanae.		
Lime, live, bbls.....per bbl.	1.70	2.20
Mercury Bichloride, kegs.....lb.	.71	.76
Naphthalene, ref. flakes, bbls.....lb.	.06¾	.07
Nitrobenzene (Myrbane) drums....lb.	.09	.11
Paradichlorobenzene, bbls., kegs....lb.	.16	.25
Petrolatum, bbls. (as to color)....lb.	.02	.07¼
Phenol, (Carbolic Acid), drums....lb.	.14¼	.16
Pine Oil, bbls.....gal.	.59	.64
Potash, Caustic, drums.....lb.	.06¼	.06½
Flake.....lb.	.07	.07¼
Potassium Carbonate, solid.....lb.	.07¼	.09½
Liquid.....lb.	.03½	.03¾
Pumice Stone, powder.....100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—		
Grade B to H, basis 280 lbs.....bbl.	4.65	5.55
Grade K to N.....bbl.	5.80	6.00
Grade WG and X.....bbl.	6.35	6.95
Wood.....bbl.	4.25	5.75
Rotten Stone, pwd. bbls.....lb.	.02½	.04½
Silica.....ton	20.00	27.00
Soap, Mottled.....lb.	.04¼	.04¾
Olive Castile, bars.....lb.	.13	.19
powder.....lb.	.23	.30
Olive Oil Foot.....lb.	.07	.07½
Powdered White, U. S. P.....lb.	.19	.21
Green, U. S. P.....lb.	.06½	.08
Tallow Chips.....lb.	.07¼	.07¾
Whale Oil, bbls.....lb.	.05	.06
Soda Ash, cont., wks., bags, bbls. 100 lb.	1.23	1.50

Car lots, in bulk.....100 lb.	—	\$1.05
Soda Caustic, cont., wks., sld....100 lb.	—	2.60
Flake.....100 lb.	—	3.00
Liquid, tanks.....100 lb.	—	2.25
Soda Sal., bbls.....100 lb.	1.10	1.30
Sodium Chloride (Salt).....ton	11.40	14.00
Sodium Fluoride, bbls.....lb.	.07¼	.08¾
Sodium Hydrosulphite, bbls.....lb.	.19	.20
Sodium Silicate, 40 deg., drum....100 lb.	.80	1.20
Drums, 52 deg. wks.....100 lb.	1.35	1.75
Tar Acid Oils, 15-25%.....gal.	.21	.24
Trisodium Phosphate, bags, bbls....lb.	.03	.03½
Zinc Oxide, lead free.....lb.	.06	.06¼
Zinc Stearate, bbls.....lb.	.20	.22

## Oils — Fats — Greases

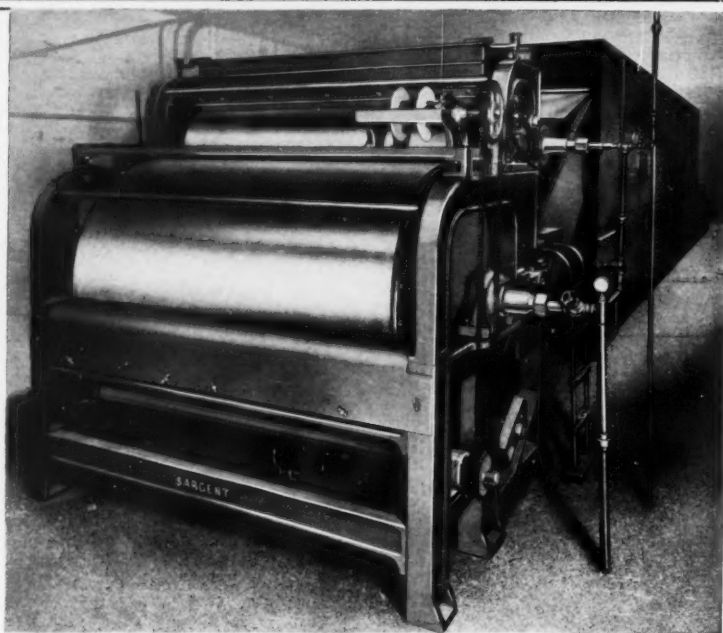
Castor, No. 1, bbls.....lb.	.10¼	.11
No. 3, bbls.....lb.	.09¾	.10½
Coconut		
Manila, tanks, N. Y.....lb.	—	.05
Tanks, Pacific coast.....lb.	.04¾	.04¾
Cod, Newfoundland, bbls.....gal.	.40	Nom.
Copra, bulk, coast.....lb.	.0280	.0290
Corn, tanks, mills.....lb.	.09¼	.09½
Cottonseed, crude, tanks, mill....lb.	.08¾	.09
PSY.....lb.	—	Nom.
Degras, Amer., bbls.....lb.	.05¼	.06
English, bbls.....lb.	.09	.10
Neutral, bbls.....lb.	.08	.11
Greases, choice white bbls., N. Y....lb.	.05¾	.07
Yellow.....lb.	.05¼	.05½
House.....lb.	.05¼	.05½
Lard, City.....lb.	.11¼	.11½
Compound tierces.....lb.	.12¼	.12½
Lard Oil,		
Extra, bbls.....lb.	—	.11
Extra, No. 1, bbls.....lb.	—	.09
No. 2, bbls.....lb.	—	.08½
Linseed, raw, bbls., spot.....lb.	.1000	.1040
Tanks, raw.....lb.	—	.0940
Boiled, 5 bbls. lots.....lb.	—	.1120
Menhaden, Crude, tanks, Balt. gal.	.36	Nom.
Oleo Oil, No. 1, bbls., N. Y.....lb.	—	.12½
No. 2, bbls., N. Y.....lb.	—	.12
Olive, denatured, bbls., N. Y.....gal.	.79	.80
Foots, bbls., N. Y.....lb.	.08½	.08¾
Palm.....lb.	.04¾	.05
Palm Kernel, casks, denatured....lb.	.04¾	Nom.
Peanut, domestic tanks.....lb.	.09¼	Nom.
Red Oil, distilled bbls.....lb.	.09¾	.10½
Saponified bbls.....lb.	.09¾	.10¾
Tanks.....lb.	—	.08¾
Soya Bean, domestic tanks, N. Y....lb.	.08½	.09
Stearic Acid,		
Double pressed.....lb.	.10	.11
Triple pressed, bgs.....lb.	.12¾	.13¾
Stearine, oleo bbls.....lb.	.08¾	.09
Tallow, special, f.o.b. plant.....lb.	—	.06½
City, ex. loose, f.o.b. plant.....lb.	—	.06¾
Tallow, oils, acidless, tanks, N. Y....lb.	—	.08¼
Bbls., c/1 N. Y.....lb.	—	.08¾
Whale, refined.....lb.	.07¾	.08

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Bitter, F. F. P. A.....lb.	2.25	2.75
Sweet, cans.....lb.	.58	.60
Anise, cans U. S. P.....lb.	.50	.55
Apricot, Kernel, cans.....lb.	.22	.25
Bay tins.....	1.25	1.50
Bergamot, coppers.....lb.	1.65	2.00
Artificial.....lb.	1.00	1.30
Birch Tar, rect. tins.....lb.	.70	.75
Crude, tins.....lb.	.14	.16
Bois de Rose, Brazilian.....lb.	1.25	1.60
Cayenne.....lb.	2.40	2.90
Cade, cans.....lb.	.26	.30
Cajuput, native, tins.....lb.	.50	.60
Calamus, tins.....lb.	3.25	3.50
Camphor, Sassy, drums.....lb.	—	.16
White, drums.....lb.	—	.17
Cananga, native, tins.....lb.	2.65	2.75
Rectified, tins.....lb.	2.95	3.10
Caraway Seed.....lb.	1.95	2.20
Cassia, Redistilled, U. S. P.....lb.	1.10	1.15
Cedar Leaf, tins.....lb.	.90	.95
Cedar Wood, light, drums.....lb.	.18	.22
Citronella, Java, drums.....lb.	.25	.26
Citronella, Ceylon, drums.....lb.	.20	.22
Cloves, U. S. P., tins.....lb.	.95	1.00
Eucalyptus, Austl., U. S. P., cans.....lb.	.32	.34
Fennel, U. S. P., tins.....lb.	1.00	1.25
Geranium, African, cans.....lb.	4.75	6.75
Bourbon, tins.....lb.	5.50	7.00
Hemlock, tins.....lb.	.70	.75
Lavender, U. S. P., tins.....lb.	3.25	7.00
Spike, Spanish, cans.....lb.	1.20	2.00
Lemon, Ital., U. S. P.....lb.	1.45	2.00
Lemongrass, native, cans.....lb.	.55	.60
Linaloe, Mex., cases.....lb.	1.35	1.50
Nutmeg, U. S. P., tins.....lb.	1.20	1.35
Orange, Sweet W. Ind., tins.....lb.	2.35	2.45
Italian cop.....lb.	2.65	3.00
Distilled.....lb.	—	.75
Origanum, cans, tech.....lb.	.70	.75
Patchouli.....lb.	5.25	6.00
Pennyroyal, dom.....lb.	1.65	1.90
Imported.....lb.	1.30	1.40
Peppermint, nat., cases.....lb.	1.85	2.20
Redis., U. S. P., cases.....lb.	2.10	2.30
Petit, grain, S. A., tins.....lb.	1.00	1.15
Pine Needle, Siberian.....lb.	.90	.95
Rose, Natural.....oz.	5.50	18.00
Artificial.....oz.	2.00	3.00
Rosemary, U. S. P., tins.....lb.	.34	.45
Tech., lb. tins.....lb.	.30	.40
Sandalwood, E. Ind., U. S. P.....lb.	5.00	5.50
Sassafras, U. S. P.....lb.	.75	1.00
Artificial.....lb.	.46	.47
Spearmint, U. S. P.....lb.	1.40	1.50
Thyme, red, U. S. P.....lb.	.58	1.02
White, U. S. P.....lb.	.65	1.10
Vetivert, Bourbon.....lb.	11.50	14.00
Ylang Ylang, Bourbon.....lb.	4.60	7.00

### Aromatic Chemicals

Acetophenone, C. P.....lb.	\$1.25	\$2.25
Amyl Cinnamic Aldehyde.....lb.	1.75	2.50
Anethol.....lb.	1.00	1.10
Benzaldehyde, tech.....lb.	.60	.65
U. S. P.....lb.	1.20	1.30
Benzyl, Acetate.....lb.	.56	1.00
Alcohol.....lb.	.65	1.15
Citral.....lb.	2.40	2.60
Citronellal.....lb.	2.05	2.50
Citronellol.....lb.	2.10	2.65
Citronellyl Acetate.....lb.	4.50	7.00
Coumarin.....lb.	3.10	3.30
Cymene, drums.....gal.	.90	1.25
Diphenyl oxide.....lb.	.85	1.25
Eucalyptol, U. S. P.....lb.	.50	.55
Eugenol, U. S. P.....lb.	2.00	2.50
Geraniol, Domestic.....lb.	.90	2.00
Imported.....lb.	2.00	3.00
Geranyl Acetate.....lb.	2.00	2.50
Heliotropin.....lb.	2.00	2.10
Hydroxycitronellal.....lb.	3.50	9.00
Indol, C. P.....oz.	2.00	2.50
Ionone.....lb.	3.60	6.50
Iso-Eugenol.....lb.	3.00	4.25
Linalool.....lb.	1.65	2.25
Linalyl Acetate.....lb.	1.85	4.25
Menthyl.....lb.	3.50	3.60
Methyl Acetophenone.....lb.	2.50	3.00
Anthranilate.....lb.	2.15	3.20
Paracresol.....lb.	4.50	6.00
Salicylate, U. S. P.....lb.	.40	.45
Musk Ambrette.....lb.	4.75	6.00
Ketone.....lb.	5.00	6.50
Xylene.....lb.	1.50	2.50
Phenylacetaldehyde.....lb.	4.80	8.00
Phenylacetic Acid, 1 lb., bot.....lb.	3.00	4.00
Phenylethyl Alcohol, 1 lb. bot.....lb.	4.00	4.50
Rhodinol.....lb.	5.75	8.00
Safrol.....lb.	.54	.57
Terpineol, C. P., 1,000 lb. drs.....lb.	.30	.31
Cans.....lb.	.33	.34
Terpinyl Acetate, 25 lb. cans.....lb.	.80	.90
Thymol, U. S. P.....lb.	1.40	1.50
Vanillin, U. S. P.....lb.	3.75	4.00
Yara Yara.....lb.	1.30	2.00

### Insecticide Materials

Insect powder, bbls.....lb.	.17	.20
Concentrated Extract		
5 to 1.....gal.	1.20	1.25
20 to 1.....gal.	4.00	4.10
30 to 1.....gal.	5.85	6.00
Derris, powder—4%.....lb.	.41	.45
Derris, powder—5%.....lb.	.46	.50
Cube, powder—4%.....lb.	.34	.37
Cube, powder—5%.....lb.	.40	.42


### Gums

Arabic, Amb. Sts.....lb.	.10¼	.10¾
White, powdered.....lb.	.13¼	.13¾
Karaya, powdered No. 1.....lb.	.09½	.10
Tragacanth, Aleppo, No. 1.....lb.	1.20	1.25
Sorts.....lb.	—	.25

### Waxes

Bees, white.....lb.	.34	.36
African, bgs.....lb.	.24	.25
Refined, yel.....lb.	.28	.30
Candelilla, bgs.....lb.	.16	.17
Carnauba, No. 1.....lb.	.46	.47
No. 2, yel.....lb.	.45	.46
No. 3, chalky.....lb.	.36	.37
Ceresin yellow.....lb.	.36	.38
Paraffin, ref. 125-130.....lb.	.04¼	.04½

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## **PALM OIL** (From Page 30)

to some extent in the finished soap. The oil has to be bleached in order to be used for toilet soap purposes. The very poor quality oils, such as the Congo oil, which it is either impossible or extremely difficult to bleach, are used in dark-colored household soaps.

Palm oil finds some use in soaps for textile purposes, particularly for milling woolen cloth, sometimes for degumming silk, and for treating cotton goods during and after dyeing. The advantage of palm soaps lies in the fact that they possess a pleasant odor and are not as liable to turn rancid as soaps made from some other oils. However, they are not very soluble, and so palm oil is used in conjunction with an oil such as coconut or palm kernel oil, which produces a readily-soluble soap.

In trade, the oil is graded according to its place of origin, the grades recognized being mainly as follows:

Soft oils—Lagos, Calabar, Opobo, and Bonny.

Hard oils—Congo, Niger, Oil River, Liberia, Gold Coast.

Mixed oils—Gold Coast and Niger.

An idea of the extent to which palm oil is produced and consumed can be derived from the following tables:

**TABLE I.**  
**Shipments of Palm Oil (In tons)**

	From Sumatra	From West Coast of Africa
1929 .....	35,635	193,313
1930 .....	48,600	210,361
1931 .....	61,327	181,511
1932 .....	83,696	178,854
1933 .....	113,260	201,800
1934 .....	121,260	175,942

**TABLE II.**  
**Imports of Palm Oil Into United States (In tons)**

1923.....	57,364	1929.....	116,706
1924.....	45,437	1930.....	128,791
1925.....	62,134	1931.....	114,924
1926.....	58,371	1932.....	96,950
1927.....	71,388	1933.....	128,340
1928.....	75,908	1934.....	69,433

**P**ALM kernel oil, as mentioned above, is obtained from the nut of the palm fruit. There is generally one such nut in a fruit, although some fruits have been found to contain two. The nuts, or kernels, usually contain about 45 to 50 per cent of oil. The kernels are collected as the palm oil itself is being obtained, and their shells are cracked by natives and the kernels sent to the coast for export. Machines have been devised for cracking the kernels as they are gathered, but as most of the cracking is done by women and children, the expense entailed by such machines is actually unwarranted under the conditions which exist in the places where the work is carried on. As far as the extraction of the oil by natives is concerned, it is not a paying proposition to have the oil produced by them. The press cake is highly valued in other parts of the world and is actually worthless to the natives.



The procedure followed in the extraction of the oil from the palm kernels consists in screening the kernels to free them from extraneous matter, and then grinding them to a paste. This paste is then either transferred to hydraulic presses for the expression of the oil or it is extracted by means of solvents. By the pressure method, two pressings are necessary, the first being carried out generally at around 45-50° C., the second at 55-60° C. About 45 per cent of the oil is thus recovered from the meal.

Fresh palm kernel oil is neutral and has an agreeable odor and nutty flavor. In commercial samples, large amounts of free fatty acids are sometimes present. The color of the oil ranges from white to pale yellow, and in both chemical and physical properties, the oil bears a striking resemblance to coconut oil. By virtue of its high lauric acid content, it produces a soap with excellent lathering properties and easy solubility, even in strong salt solutions. It is also a valuable ingredient of cold-processed soap. Strong caustic lyes are required for the saponification of palm kernel oil. The oil has good keeping qualities, and, in all, is a very desirable raw material for the manufacture of soap.

Palm kernel oil ranks eighth in the list of vegetable oils used for soap making in the United States. It is chiefly used in combination with other oils, which produce less soluble soaps. Very fresh palm kernel oil is

used for the production of vegetable shortenings. The oil can be separated into a solid portion, known as "palm nut stearine" and used as "chocolate fats" or for margarine manufacture, and "palm nut oleine" which is used for making soap. The oil can be refined and deodorized in the same manner as that employed for the treatment of coconut oil.

The demand for palm kernel oil in different parts of the world is shown by the following tables:

TABLE III.

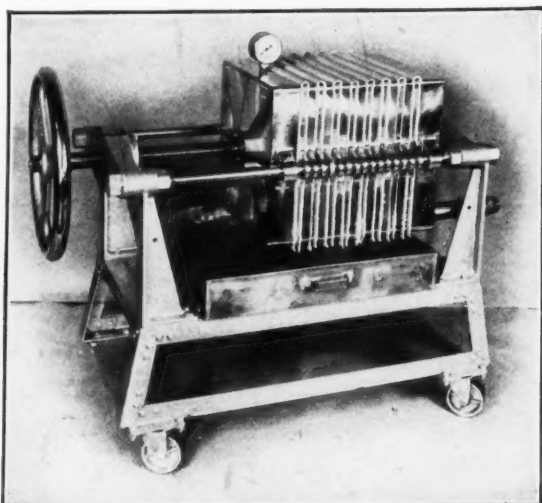
Imports of Palm Kernel Oil Into United States (In tons)			
1926.....	33,473	1930.....	16,670
1927.....	19,248	1931.....	11,321
1928.....	24,542	1932.....	946
1929.....	33,209	1933.....	5,794
	1934.....		5,693

TABLE IV.

Total Imports of Palm Kernels (In tons)			
	1932	1933	1934
United States .....	12,812	6,660	3,798
United Kingdom			
(net imports) .....	157,948	128,013	133,686
Germany .....	307,846	248,207	274,196
France .....	11,213	10,787	27,765

<sup>1</sup>"The Refining of Palm Oil for Edible Purposes". M. F. Lauro and W. H. Dickhart, Am. Jour. of Pharmacy, April, 1922.

A cleansing powder contains 95 parts of borax and 5 parts of resin. Louis A. Chabbal. French Patent No. 783,596.



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# PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

## Continuous Soap Manufacture

### A Discussion of the Löffl Process

By JOSEPH M. VALLANCE

*Warrington, England*

**T**HE dispersoid-pressure process is an entirely new, ingenious and, in certain ways, revolutionary method of soapmaking, evolved over a period of years by Dr. Karl Löffl of Berlin. The following paragraphs are an attempt to summarize the inventor's own rather copious writings on the subject.

Before proceeding to a discussion of the actual process, however, it would be as well to examine impartially one or two outstanding defects of the present soap making system. As Dr. Löffl himself pointed out some years ago, the ideal for the commercial production of any article, and particularly a wholesale article like soap, is wholly automatic manufacture. It must, therefore, be the constant endeavour of soap technologists to realize the continuous production of soap, with the elimination, as far as possible, of variable factors. With the contrivances and especially with the methods in general use, nobody will dispute that this ideal is a long way from fulfillment.

In the view of Dr. Löffl, and it is an opinion that can readily be substantiated, a good deal of the inefficiency of modern soapmaking is to be found in the average pan room. Up to a few years ago, the senior soapboiler was the absolute ruler in this domain, neither the engineer nor the chemist daring to interfere with the sanctity of the ancient and gigantic kettles. It was only after a prolonged struggle, in fact, that the placing of the steam coil at the bottom of the kettle was allowed. For many years, nobody dared suggest having a fixed lid to the soap kettle, or to shut it during the boiling process. The old-fashioned soapmaker pretended, in fact, to be unable to make his soap properly without observing the boiling, noting whether the soap was spinning or fluttering, etc., etc.

Moreover, the soap boiler of yesterday would no doubt have thought it impossible to perceive the join by means of a sample taken from a lateral test cock in a wide test tube, or to run the soap from the lateral test cock upon

the spatula in order to observe its spin. He would also have thought it out of the question to perceive the completeness of saponification by means of a sample so extracted from the main boil.

The above, however, is by no means the sole purpose of the fixed cover. Apart from the fact that the boiler's eye is now replaced by the test tube, the following reasons are also important factors in favor of the closed kettle: 1. The entire kettle room is dry and steamless, 2. The amount of heat required is considerably smaller than with an open kettle, 3. It is unnecessary to add water to the batch during manufacture, 4. In a closed kettle, boiling is done without foam or skim, 5. The exact amount of salt required for graining is known, 6. In a closed kettle, it is possible to work at a temperature above 100° centigrade. Owing to the greatly decreased viscosity of the soap mass when raised above this temperature, the fats are more exposed to the alkalis, it is easier to obtain a ready emulsion, and saponification is completed very much more rapidly than in an open pan.

Let us now turn our attention for a moment to the question of stirring. Throughout the entire chemical industry, stirring is constantly employed as a means for mixing heterogeneous substances intimately together. It is true that stirrers are being increasingly used in modern works, in the manufacture of soft soap, yet, as Dr. Löffl remarks, the impartial observer may well look at such stirring equipment and laugh,—partly at the shape in which they are made, and partly at the extraordinary slowness with which they run. In other departments of the chemical industry, emulsions are made by the employment of mixing machinery capable of really rapid mixing, yet in a soapery two heterogeneous fluids, differing, say, in density from 0.9 to 1.2, are arduously mixed by the primitive method of conducting steam through them or stirring at the rate of 20 or less r.p.m.

It is claimed that this antiquated procedure can most profitably be superseded by employing more suitable and faster stirring equipment, in conjunction with a closed kettle. By this means, it is said to be possible to convert both fluids instantly into a milky emulsion of fine dispersion and to maintain it thus, so that with every fat, even pure mutton tallow, joint is reached in 15 minutes, and saponification within an hour. As already noted, soap paste remains thinly liquid under pressure and a temperature exceeding  $100^{\circ}\text{C}.$ , this further facilitating rapid saponification. Quick depositing is claimed to be an added advantage of such a method.

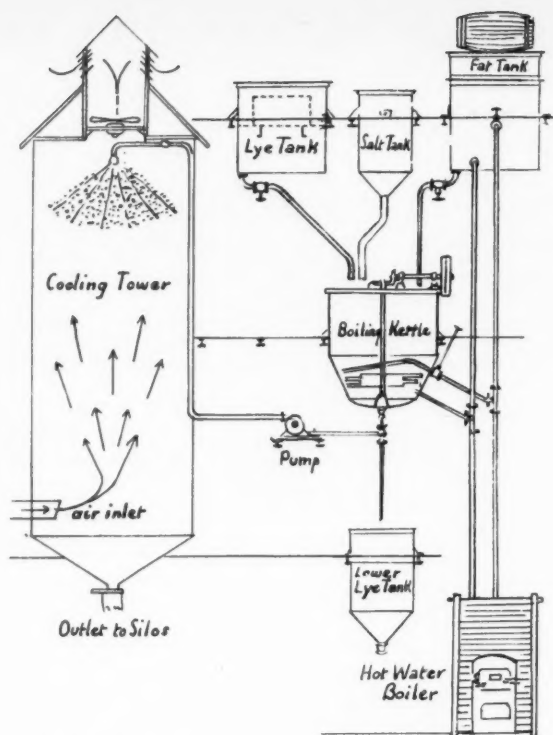
**A**T THE present time, the soap is run, after boiling, either into frames or into plate-coolers, with the exception of soap flakes and powders. It cannot be denied that this method of cooling has certain disadvantages, mostly due to heat insulation. However, it is in the drying room that inefficiency is more marked. Accurate drying has always been one of the soapmaker's major problems, a fact that is well evidenced by the widespread employment of simple drying racks in preference to machinery for some types of drying.

The soap base intended for the subsequent manufacture of toilet soap is, in small works, chipped for drying, these chips frequently becoming dry on the surface only, thus being notable for unequal coloration and becoming plastic with difficulty and only by repeated milling. In large works, the soap paste is, of course, cooled and solidified on rolls and chipped and dried in proper drying apparatus. Dr. Löffl claims that here again the same danger of unequal drying appears, although this writer does not think that this applies very markedly in actual practice.

However, there is undoubtedly a tendency towards a greater use of spray-drying and cooling, as employed in the Löffl process, a fact that is borne out by the growing popularity of drying towers. For the process under discussion it is claimed that spraying affords the most economic type of cooling and the most advantageous method for a far-reaching and equal dispersion.

In regard to the further manufacture of soap of different kinds, the following drawbacks are well-known and call for no emphasis. In the first place, there is a considerable waste of heat energy in the drying of both toilet and household soaps, inasmuch as the latent heat of the boiling soap paste is very largely lost and, in addition, the drying consumes a very considerable number of additional calories. This point is dealt with, according to the Löffl process, in the manner described a little later.

At present, soap powder for household purposes is frequently made by stirring soda and sometimes sodium silicate into the soap paste and subsequently grinding the mass, when cooled, in a mill or series of mills. Such powder is often remarkable for its unequal size of particles, sandy appearance and sandy touch. Also, with powders in this form, there is always the risk of coagulation into undesirable masses.



According to the suggested new process, the manufacture of soap powder is extremely simple, the soap paste being sprayed, as shown in the diagram. The resulting powder is said to be much "fatter" to the touch, more voluminous and more soluble, in addition to which it is claimed to form an unusually stable mixture with perborate.

**A**S ALREADY indicated, it will be seen that this process is based, both as regards boiling and the latter operations, firstly, upon saponification under pressure, and secondly, upon spray cooling and drying. The diagram which illustrates this article shows only the layout of the preliminary powder plant. Other types of soap (including household, toilet, chips and special powders) are subsequently manufactured with considerable facility from the soap powder base.

The process is protected by patent, in addition to which the type of apparatus employed is also, I believe, the subject of patents. Naturally a very great deal depends upon the precise shape and size of the kettle, of the mixing apparatus, the self-cleaning nozzle and the harmonious co-ordination of the individual parts of the plant, which incidentally, is claimed to work automatically and not to require expert supervision.

In conclusion, the following advantages of the process are put forward by Dr. Löffl. As they will no doubt be of interest to the majority of soapmakers, I quote them almost in full:

1. The pan room, when the kettle is closed, is entirely dry and free from steam. Moreover, the motors and other pieces of equipment are situated outside the pan room.

(Turn to Page 75)



# New Detergents Vs. Soap

**I**N THE field of detergents, the functions of the newer classes of products, for example the sodium salts of fatty alcohol sulfates, as compared with soaps, can be assessed adequately only by detached scientific comparison. The impression given when these products were first put on the market, was that in time, soap would be entirely superseded. Judging from recently published reports, there is some uncertainty as to how far the new detergents are useful.

There can be no doubt that many of the sulfate and sulfonate types of detergents have useful properties which ordinary soaps lack. They form reasonably soluble calcium and magnesium salts. Some are effective and comparatively stable in mildly acid solutions, and some have pronounced wetting-out, dispersing or other properties. On the other hand, the discussions of the past year suggest that in actual washing power, ordinary soaps may be superior to the new products.

It is still difficult to define detergency in terms of a measurable property or combination of properties, but soaps of the oleate type possess something, usually termed body, which enables them to cleanse heavily-soiled material exceptionally well. At present, it seems generally agreed that lightly soiled fine textile fabrics can be equally well cleansed by the newer agents, and that with colored fabrics, the effect is brighter than when soap is employed. For other work it is possible that the newer products will find good use in conjunction with soap. The sulfated products are probably capable of altering the physical structure of the colloidal soap solution. One is left feeling that there is room for much further technical investigation.

The sulfated detergents, and also triethanolamine soaps, are proving increasingly valuable as constituents of brushless shaving creams, of "oil" or "soapless" shampoos, in toilet soaps and dentifrices. It ap-

pears that judicious proportioning is essential to attain the best results.—T. P. Hilditch. *Chemical Age* 33, 599-600 (1935).

## Fat in Soap Emulsions

A rough method for determining the fat in soap emulsions and softeners for textiles, is to add a known amount of oleic acid and then float the total softened fatty acid layer into the narrow graduated neck of a flask, where it can be measured by volume. The method should be especially useful where approximate values are desired for the amount of fat or oil in prepared softeners, when the fat liberated by acid and heat is not liquid at ordinary temperatures. *Textile Colorist* 58, 30 (1936).

## Metaphosphate in Silk Soaking

Lime deposited as lime soap during the process of silk soaking, did not come from the water, which had been softened, or from the oils used for soaking,—but from the silk itself. Silk from five different Japanese importing houses was found to contain from 0.2 to 0.6 per cent of lime calculated as calcium carbonate. The lime problem was solved by the use of sodium metaphosphate. The amount used was 65 ounces of 30 per cent metaphosphate to a unit soaking bath of 100 pounds of raw silk. The amount depends, of course, on the hardness encountered, but can be calculated as follows: Ounces of 30 per cent metaphosphate solution =  $32 + 22H$ , where  $H$  = hardness in parts per 100,000, as found in skein tests in distilled water. J. M. F. Leaper. *Textile Colorist* 58, 13-15, 60 (1936).

## Saponifying Hydrogenated Waxes

High molecular weight alcohols are obtained by saponifying waxes, which may have been hydrogenated, with solid or highly concentrated aqueous solutions of alkalis or alkaline earths at 150-280° C.

The saponified product may be subjected to distillation or extraction processes. For example, sperm oil is heated with calcium hydroxide at 220° C. for 5 hours. The product is a 40 per cent yield of alcohol with a fish-like odor and a 60 per cent yield of a salve-like odorless fatty acid. Deutsche Hydrierwerke A.-G. German Patent No. 616,765.

## Determine Hydroxyl Groups

With the use of the acetyl value and the saponification value of acetylated fatty acids and fatty alcohols, a series of equations has been formulated for use as aids in determining the average number of free hydroxyl groups per molecule of fatty acid or fatty alcohol in various fatty acid mixtures or fatty alcohol mixtures. C. Steiner. *Chem.-Ztg.* 59, 795-6 (1935).

## Animal Fibre Filter Best

Several commercial filter cloths have been tested as to durability against oils containing bleaching earths. Cotton filter cloths show considerable variation in lasting quality. The poorest camel's hair filter cloth was four times more durable than the best cotton cloth, which was one-third cheaper. Since the material to be filtered is usually acid, the use of animal-fiber filter cloths is recommended. Josef Hetzer. *Allgem. Oel- u. Fett-Ztg.* 32, 395-7 (1935).

## Sulfonation in Presence CO<sub>2</sub>

Sulfonated oil is produced by sulfonating with solid carbon dioxide present, immersed in the mixture of oil and acid. Heat liberated by the reaction is thus absorbed, and the mixture is agitated by the resulting bubbles of carbon dioxide. A temperature not higher than 10° C. can be maintained. The Richards Chemical Works, Ltd. Canadian Patent No. 354,961.

Efficient antioxidants for the preservation of lard are glycerine, asparagine, sodium citrate and sodium malonate. C. H. Lea. Dept. Sci. Ind. Research. Rept. Food Investigation Board 38-43 (1935).

# Products and Processes

## Prevention of Rancidity

Oils and fats are preserved from rancidity by incorporating therewith a vegetable material such as barley, oats, maize, soybeans, cottonseed, etc. The vegetable material is removed after the treatment. Sidney Musher. French Patent No. 785,927.

## Remove Iron from Caustic

An improvement in the purification of caustic liquors by iron removal consists of adding a water-soluble compound of magnesium to form a precipitate carrying down with it the iron compounds. The precipitate, together with occluded iron compounds is later separated from the caustic liquor. The Mathieson Alkali Works. Canadian Patent No. 355,068.

## Continuous Oil Refining

In a continuous process for the refining of vegetable oils by means of a high-speed centrifuge, crude oil and caustic lye are fed continuously into the mixer with the aid of an instrument known as a proportionometer. The latter ensures that the rate of flow of the two liquids, oil and lye, shall always be in a constant predetermined ratio, no matter what the absolute rate of flow may be. *Industrial Chemist* 12, 37 (1936).

## Soap from Paraffin

Soap is manufactured by dissolving the oxidation products of non-aromatic hydrocarbons of high molecular weight in a water insoluble solvent or mixture of solvents. The solution is then treated with an alkaline substance dissolved in water so as to neutralize the acid portions of the oxidation products. The aqueous soap solution is separated and the unsaponifiable constituents are extracted from it by means of the same or another water-insoluble sol-

vent. The soap solution is evaporated to dryness and formed into shaped soaps, soap powder, etc. As an example, hard paraffin is oxidized with air by heating in the presence of sodium and manganese palmitates, the product is dissolved in a mixture, of benzene and alcohol and stirred with warm soda ash solution, the soap solution is removed after settling, extracted with benzene and evaporated in a roll drier to form a soap powder. I. G. Farbenindustrie A.-G. British Patent No. 433,305.

## New Hand Cleaner

A composition for removing black grease or oil or similar dirt from the hands consists of leather felt pads soaked in a mixture of soap solution and acetone or other solvent miscible with water. Rudolf Wille. German Patent No. 616,885.

## Aluminum for Oxygen Soaps

Soap containing per-compounds and salts of pyro- and metaphosphates are stabilized in alkaline medium by adding aluminum hydroxide, or salts of aluminum by which the hydroxide is formed. An example of this type of product is soap 57 parts, neutral sodium pyrophosphate 12 parts, sodium perborate 12 parts, soda ash 14 parts, and aluminum hydroxide 5 parts. Henkel & Cie. G. m. b. H. French Patent No. 785,329.

## Determine Volatile Solvent

Volatile hydrocarbons in soaps may be determined by means of a special apparatus in which volatile fatty acids and volatile hydrocarbons are distilled with steam, the fatty acids removed by passing through strong caustic solution, and the hydrocarbons condensed and allowed to collect in a measuring buret. For solvents heavier than water a Bidwell Stirling tube is used. *Oil & Soap* 13, 9-10 (1936).

## Cold Made Rosin Soap

Cold-process fat-rosin soaps are made by treating fatty matter with just sufficient alkali for saponification, treating a mixture of rosin and fat or oil with alkali sufficient to saponify only the rosin, mixing the two products and adding alkali to saponify the surplus fat. Perfumes, fillers, coloring matter and bleaching agents may be added. Edward H. Taylor and Cecil W. Taylor. British Patent No. 432,227.

## Soap Paper Glaze

A soap emulsion suitable for glazing paper may be obtained free from inorganic alkali salts. An alkali earth hydroxide is treated with at least one free fatty acid in the presence of a wetting and emulsifying agent. For example, fused stearic acid is emulsified with an aqueous solution of an ordinary wetting and emulsifying agent, and shaken with a hot aqueous solution of barium hydroxide. Victor Wintsch. Swiss Patent No. 174,087.

## Sulfate Soap Compound

A washing composition consists of soap powder and a fatty alcohol sulfate. An example is a composition containing soap powder, borax, sodium perborate and fatty alcohol sulfate. E. Huber-Weber. Swiss Patent No. 176,937.

## Nacconol, Textile Agent

Nacconol has been announced by National Aniline & Chemical Co., Inc., for use as a scouring, washing, wetting-out and leveling agent on textile products. It is a compound that is soluble in hard or soft water and in solutions of acids or alkalis. *Business Week*, Dec. 28, 1935.

An advantage in using Bag's highly active nickel-aluminum catalyst for the hydrogenation of oils is the possibility of working continuously instead of in batches. R. Heublyum. *Mat. grasses* 27, 10589-90, 10618-9 (1935).

# Phenolic Soaps

**S**OAP itself has a certain antiseptic action, which however, is relatively slight because of its low solubility in water. Another factor is that the time during which the soap is in contact with the skin during the washing operation, is ordinarily very brief, so that the soap does not have time to penetrate the protoplasm of micro-organisms. The principal advantage of soap is its detergent action, by means of which it removes germs and germ-laden soil from the skin.

A phenolic toilet soap should not contain more than 3 per cent of phenols. Household soap should not contain more than 5 per cent. Phenols have a corrosive action on the skin and care should be taken not to exceed these limits.

Phenols are somewhat volatile and will evaporate in time unless the soap is properly wrapped to avoid this. Phenols have a softening action on soap, which is increased by their hygroscopic nature. Because of this, phenolic soap should be well dried and wrapped in moisture-proof wrappers. The following formula is for an inexpensive phenolic soap for general cleansing and deodorization:

	Pounds
Bone fat .....	150
Rosin .....	150
Phenol .....	25
Caustic soda lye, 37° Bé....	150

Bring the mixture of fat and rosin to 75° C., add the phenol and agitate. Add gradually to the lye, warming until the reaction is complete. Cool and cut into bars of the usual size. The presence of phenol in this type of soap lends it a rather refreshing odor, which masks the undesirable odor of the cheap bone fat. As to the actual antiseptic value of such a soap, it must be admitted that soap chemists are aware of the fact that it is relatively small.

A half-boiled soap containing

glycerine can be made from the following formula:

	Pounds
Coconut oil .....	80
Tallow .....	40
Caustic soda lye, 38° Bé....	60
Phenol .....	3

The fat and lye are agitated together at 35° C. until reaction is complete. The phenol, dissolved in a little water, is then introduced. The soap may be perfumed with a small amount of clove, lavender, or rosemary. The soap wrappings should be air-tight.

Cresols can be used in place of phenols. They have the advantages of being less corrosive and somewhat less expensive. Commercial cresol is a mixture of three isomers. It is colorless when freshly distilled but becomes colored rapidly

on storage. Cresol is only slightly soluble in water, but dissolves readily in potash soap, the resulting mixture being miscible in all proportions with water. Lysol is a common cresol product. A water-soluble substitute for Lysol is a mixture of equal parts of cresol and Turkey red oil. *Les Matieres Grasses* 27, 10676-7 (1935).

## Rosin by Refractive Index

Since rosin possesses a refractive index which is much higher than that of any other stock regularly used for soap making, the presence of small amounts of rosin can be readily detected in mixtures of rosin and fatty acids by means of the Abbe refractometer. Very accurate results can be obtained in the analysis of mixtures of rosin and fatty acids of known refractive indices. The chief application of this is in the manufacturing control of soaps containing rosin. F. J. Squire. *Oil & Soap* 13, 2-5 (1936).

# Mottled Soaps

**V**ARIOUS combinations of fatty acids may be used in making mottled soap. The stock may contain 100 pounds of grease and 20 pounds of coconut or palm kernel oil, saponified in the usual way. Each 100 pounds of fatty acids should yield 210 pounds of soap. The necessary amount of water is added and 3 pounds of soda ash and 3 pounds of ultramarine blue for each 100 pounds of soap. The content of free caustic alkali should be 0.15 to 0.2 per cent, and the moisture content 40 to 44 per cent. The soap should boil in a thick ropy mass.

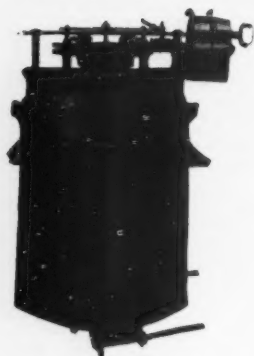
Frames of 2,000 to 3,000 lb. capacity are most suitable for this kind of soap. After the soap has been run into frames, it should be kept overnight in a heated room. The soap will remain fluid during this time to allow the mottle to form. The color has more affinity for the sodium oleate, which will separate

from the sodium stearate. This separation causes the mottle. The frames are removed from the heated room the next morning and allowed to cool.

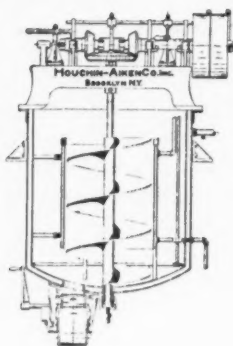
"English" blue mottled soap is made from 100 pounds of grease and 10 pounds of palm kernel oil, saponified in the usual way. Three strong lye changes are made with moist steam. The reason for these strong lye changes is to take care of the silicate of soda which is incorporated in this type of soap. The soap should contain about 1/4 per cent of free caustic and about 47 per cent of fatty acids. After these strong lye changes have been made, the kettle is boiled up with dry steam. The required amount of water is added, with 25 pounds of silicate of soda to each 110 pounds of fatty acids. Half a pound of ultramarine blue is generally used to each 100 pounds of soap—F. L. Grant, *Soap, Perf. & Cosmetics*, Dec., 1935.

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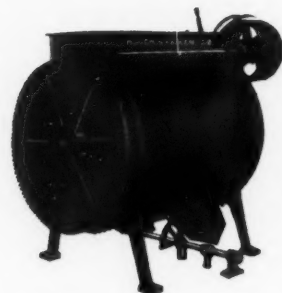
# NEW and USED HOUCHIN SOAP MACHINERY



Perfection Crutcher  
Sliding Gate Valve



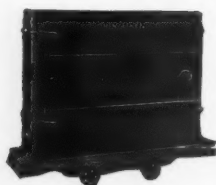
Perfection Crutcher Cross  
Section View Plunger  
Type Valve



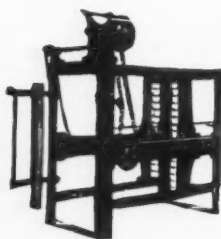
Horizontal Crutcher



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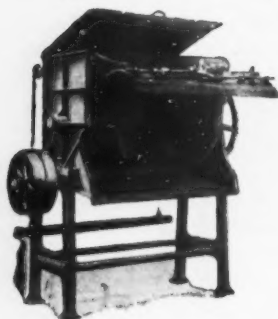
Standard  
Soap Frame



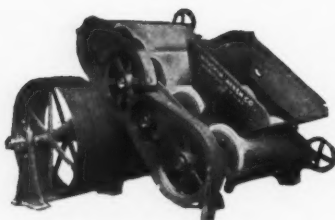
Automatic Power  
Slabber



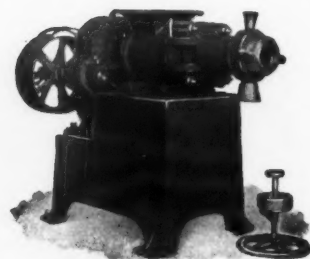
Automatic Power Cutting  
Table



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### Efficiency of Spreaders

It is often difficult to obtain reproducible results in spraying operations where soap is the emulsifying and wetting agent. As an alkali for use with oleic acid in the preparation of aqueous solutions having superior wetting properties, sodium carbonate has some definite advantages over sodium hydroxide. At a given concentration the wetting properties of the carbonate mixtures are much less sensitive to variations in the alkali-fatty acid ratio, and therefore it should be easier to maintain a consistently high value of the spreading coefficient in the preparation of the carbonate solutions. In using the carbonate solutions there should be less uncontrolled variation in the wetting properties due to acidity or alkalinity of the water used in diluting the mixtures. H. L. Cupples. *Ind. Eng. Chem.* 28, 60-2 (1936).

### Carnauba Wax Exports

Brazilian exports of carnauba wax totaled 5,057 metric tons during the first nine months of 1935, as compared with 6,146 tons during the whole of 1934. The unit value of the exports was about 40 per cent higher in 1935 than in 1934.

### Soapless Shampoo

A soapless shampoo product is diethylaminoethylolyleamide, obtained by heating oleic acid with the asymmetrical disubstituted diethylethylenediamine. The solution of the product foams strongly even on great dilution. It is stable toward calcium and magnesium salts. Weltwart. *Seifensieder-Ztg.* 51, 1050 (1935).

### Derris-Soap Spray

A 50% reduction of the damage caused by the apple surface-eating tortricid was obtained by spraying with 2 pounds of derris and 5 pounds of soft soap per 100 gallons. The spraying was done 9 weeks after petal fall. The spray contained 0.007 per cent of crude rotenone. F. J. D. Thomas. East Malling Research Sta., 22nd Ann. Rept. 205-7.

### Sulfated Washing Agent

A cleaning, washing, emulsifying, dispersing or softening agent is made by treating olive oil with a mixture of sulfuric acid and the glycerol ester of sulfuric acid. The olive oil may be replaced by coconut oil, castor oil, coconut oil fatty acids, or naphthenic acid. Chemische Fabrik vorm. Sandoz. Swiss Patent Nos. 175,866-175,870.

### SHAVING PREPARATIONS

A series of two articles on shaving preparations,—soap creams, latherless creams, shave soaps, and others,—by an outstanding American authority, Dr. E. G. Thomssen, chief chemist for the J. R. Watkins Company, will be published in the March and April issues of SOAP. Do not miss them!

### Cedar Odor for Soap

Red cedar oil is obtained by steam distillation of the sawdust. All of the oil of red cedar comes from the red heartwood. On account of its pleasant fragrance and cheapness the oil is extensively used in the soap industry for making soaps, when a "sweet" odor is not required. A typical perfume containing cedar oil has the following formula:

Cedar oil	300 cc.
Clove oil	120 cc.
Cassia oil	80 cc.
Bergamot oil	400 cc.
Benzaldehyde	30 cc.
Phenyl ethyl alcohol	50 cc.
Musk xylene	20 grams

The popularity of cedar oil, which is said to be the seventh odor in order of preference, is attested by the fact that it is used to mask the odors of chlorine disinfectants, furniture polish, insecticides, and naphthalene and paradichlorobenzene blocks and cakes. It is also used considerably in compounding perfumes for deodorizing theaters. Patents have been granted for the use of red cedar oil in a cleansing and polishing liquid, furniture polish, and a sweeping compound. Because of the popular belief in the efficacy of cedar chests as

protectors against moth damage, the U. S. Department of Agriculture has conducted two series of experiments to determine their value. The results showed that cedar chests exerted no noticeable effect on the adult moth, the eggs, half-grown larvae, or pupae. However, the cedar chests did kill young larvae. Since the moth eggs, and pupae are incapable of injuring garments, it is necessary to make sure only that the garment going into tight cedar chests are free from the older larvae or worms. H. B. Huddle. *Ind. Eng. Chem.* 28, 18-21 (1936).

### Value of Starch in Soap

Starch which merely swells, half-soluble or special industrial starch, or soluble starch is suitable for addition to soap. The special industrial starch is particularly suitable for addition to curd soap, where relatively large amounts of hardened fats may have been used. It can also be used in half-boiled soaps. Probably the most important function of the starch is to decrease the amount of fat required.

Other advantages may be attributed to the colloidal and gel-forming character of starch. Its surface-active properties are of importance in soap. It also renders soap mild. Soap products containing starch should never be superfatted but should contain a slight excess of alkali. Starch adsorbs the alkali, reducing its harshness without affecting it as an aid to detergency. Another property is that it tends to prevent rancidity development. A last point in this connection is the protective action of starch on the skin, which makes it of particular benefit as an ingredient of shaving soap. Th. Ruemele. *Allgemeine Oel- u. Fett-Ztg.* 22, 502 (1935).

A cleansing preparation is composed of soft soap, a gritty or abrasive substance such as sawdust, ground wood or cork, an animal or vegetable fatty oil, a perfume and water, to form a paste. Robert D. Grant. British Patent No. 432,140.

SHARP EYES..



..KEEN NOSES



..TENDER SKINS..

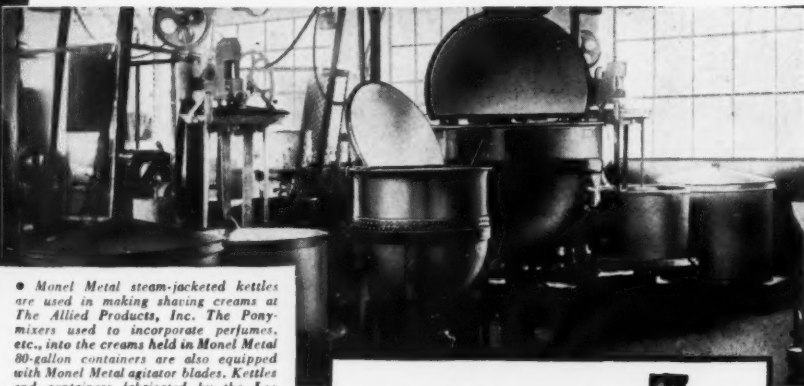


# Satisfy All Three!

Use Nickel or Monel Metal for shaving soap...  
wherever there's a threat of discoloration,  
rancidity or metallic contamination.



• Shaving soaps are mixed with aromatics and other ingredients in Nickel-Clad Steel tanks at the Bristol-Myers Co. The agitators of the mixing kettle and the reservoirs holding the ingredients are of solid Pure Nickel, fabricated by Theo. Walter, Jr., Newark, N. J.



• Monel Metal steam-jacketed kettles are used in making shaving creams at The Allied Products, Inc. The Pony-mixers used to incorporate perfumes, etc., into the creams held in Monel Metal 80-gallon containers are also equipped with Monel Metal agitator blades. Kettles and containers fabricated by the Lee Metal Products Co., Philipsburg, Pa., and The Falstrom Co., Passaic, N. J.

YOU KNOW that shaving soaps and creams probably face the most critical reception of all your soaps. Just a trace of off-color... just a tiny whiff of rancidity... and Mr. John Q. Shaver rushes off to buy another brand.

Don't BLAME his action. PREVENT it.

How? By eliminating the metallic corrosion and rust which cause the trouble. It's a pity that so little corrosion goes such a long way to spoil a fine soap. But since it does, shut it out... with a wall of Nickel or Monel Metal.

For these metals do not rust; they are highly resistant to soda and potash alkalis, and to fatty acids. They do not affect the fine perfumes and coloring matters that go into your product.

Which form—Nickel, Monel Metal or Nickel-Clad Steel—can be used to best advantage? That requires study of your individual needs. Your fabricator can advise

you. We can advise you. The details vary... the principle remains unchanged. To insure turning out your shaving soap the fine product that you know how to make it... there's a choice between Nickel and Monel Metal, and the many forms in which they are available.

Write for any of these bulletins:

"Nickel and Monel Metal in Soap Manufacture"

"Monel Metal and Nickel in the Manufacture of Pharmaceuticals, Fine Chemicals and Proprietary Products"

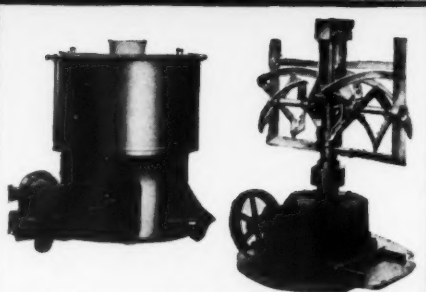
"Nickel-Clad Steel in the Process Industries"

"T-5 Engineering Properties of Monel Metal"

"T-9 Engineering Properties of K Monel"

THE INTERNATIONAL NICKEL COMPANY, INC.

67 WALL STREET NEW YORK, N. Y.



• Shaving soaps must be kept free from air bubbles, especially when filled into tubes. This result is achieved with the special Monel Metal agitator operating in a Nickel-Clad Steel tank and mixing perfumes into shaving creams. Equipment designed and fabricated by Struthers-Wells Co., Warren, Pa.



• One of the most prominent soap manufacturers mixes shaving soaps in this steam-jacketed kettle lined with Pure Nickel. The "Lightnin" portable mixer with Monel Metal shaft and agitator is used widely in the making of toilet soap and cream products. Portable mixer made by Mixing Equipment Co., Inc., Rochester, N. Y.



Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

## MONEL METAL

## New Patents

**No. 2,022,738**, Bleaching of Fatty Acids, Oils and Fats, Patented Dec. 3, 1935, by Balthasar E. Reuter, New York, N. Y., assignor to The Mathieson Alkali Works, Inc., New York, N. Y. A method for treating fats, oils and fatty acids comprising heating the fat, oil or fatty acid to above about 140° F., adding a cold solution of calcium hypochlorite and allowing the temperature to reduce during alternate periods of agitating and settling, and then heating to above about 160° F. and allowing the mixture to settle.

**No. 2,023,125**, Face Cream, Patented Dec. 3, 1935 by Barney J. Dryfuss, New York, N. Y., and Eugene F. Aubry, Jr., Weehawken, N. J. A face cream, consisting chiefly of condensed buttermilk having its protein content in substantially unhardened form and unctuous material emulsified with the water of the condensed buttermilk.

**No. 2,023,140**, Livestock Spray, Patented Dec. 3, 1935 by Gideon John Malherbe, Martinez, Calif., assignor to Shell Development Company, San Francisco, Calif. A fly-repelling spray, comprising: a mineral oil and a pine oil repellent, both boiling within substantially the same boiling range.

**No. 2,024,098**, Insecticide, Patented Dec. 10, 1935 by Leon C. Heckert, Bristol, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa. An insecticide comprising an aromatic thiocyanate the organic residue of which contains a negative substituent selected from the group consisting of a carbonyl group, an aryl radical, an unsaturated organic radical, a nitro group, a halogen, a cyanide group, an alkyl group and an organic radical bound to oxygen as in groups of the type of alkoxy and ester groups.

**No. 2,024,145**, Deodorant, Patented Dec. 17, 1935 by Max

Cline, Glens Falls, N. Y., assignor to International Paper Company, New York, N. Y. A deodorant suitable as a liquid spray comprising in an aqueous vehicle zinc sulphocarbolate as an active agent, starch as a binder and glycerine as a hygroscopic agent.

**No. 2,024,392**, Insecticidal Preparation, Patented Dec. 17, 1935 by Herbert Schotte and Karl Gornitz, Berlin, Germany, assignors to Schering-Kahlbaum A. G., Berlin, Germany. An insecticidal preparation consisting of a mixture containing rotenone and veratrin.

**No. 2,024,755**, Sterilizing Solution, Patented Dec. 17, 1935 by Lamont J. Benson, New Kensington, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa. A sterilizing solution for sterilizing aluminum articles comprising a water-soluble alkali metal di-silicate and available chlorine.

**No. 2,024,895**, Poultry Lice Exterminator, Patented Dec. 17, 1935 by Arthur H. Teigen, Madison, Wis., assignor to Pratt Food Company. An insecticide for use on poultry perches, the insecticide being a non-volatile, sticky, adherent fluid containing free nicotine and corn oil.

**No. 2,024,981**, Absorbefacient for Dry-Cleaning, Patented Dec. 17, 1935, by Warren T. Reddish, Cincinnati, Ohio, assignor to Emery Industries, Inc., Cincinnati, Ohio. An absorbefacient for a dry cleaning solvent, the absorbefacient comprising substantially 50 per cent true mahogany sodium sulphonate, 25 per cent oleic acid and 25 per cent naphtha.

**No. 2,025,954**, Denaturant for Fats and Fatty Oils, Patented Dec. 31, 1935 by John E. Muth, Berkeley, Calif., assignor to Standard Oil Co. of California, San Francisco, Calif. A composition of matter consisting of a fat or oil containing a benzyl derivative of a saccharide.

### Medicinal Soaps

Tar and sulfur-containing soaps are recommended for skin diseases, dandruff and falling hair. The sulfur-containing soap is also recommended for use by workers in metal industries, especially those who work with lead compounds. The addition of mercuric chloride to soap has the disadvantage of producing a grayish off-colored product. However, such a soap finds application in disinfection of hands before operations, and also for disinfecting surgical instruments. Other antiseptic soaps contain phenols, salicylic acid, formaldehyde or peroxides. P. Martell. *Allgem. Oel. u. Fett-Ztg.* 32, 366-8 (1935).

### Halogenated Wetting Agents

Wetting agents are prepared from ketones having at least one aliphatic chain of more than 8 carbon atoms, by halogenation. One or more of the halogens may be replaced by a solubilizing group or a short chain containing such a group. Thus, a ketone derived from stearic acid is dissolved in carbon tetrachloride and chlorine is passed through the solution. Compagnie-Kuhlmann. French Patent No. 785,561.

### Softening Agent

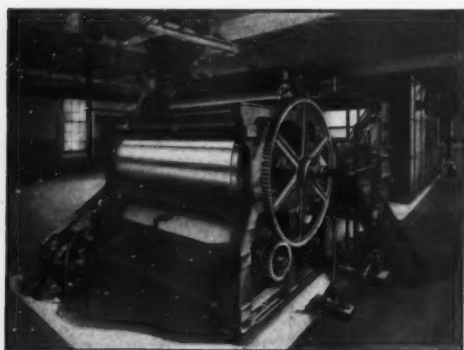
A washing and softening agent is obtained by treating sperm oil with a mixture of sulfuric acid and the glycerol ester of sulfuric acid. The sperm oil may be replaced by spermaceti. Also spermaceti may be treated with fuming sulfuric acid in the presence of a mixture of monoxylglycerolether isomers. Finally, beeswax may be treated with a mixture of sulfuric acid and the glycerol ester of sulfuric acid. Chemische Fabrik vorm. Sandoz. Swiss Patents 174,511-174,514.

### F.T.C. Hearing on Energine

Hearings were held February 5 in Cleveland before Charles F. Diggs, trial examiner, in the Federal Trade Commission complaint against Cummer Products Co., Bedford, Ohio, charging unfair competition in the sale of a cleaning fluid, "Energine".



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## CONTINUOUS SOAP MANUFACTURE

(From Page 65)

2. The necessity for installing an extensive warm-air extraction plant is completely obviated.

3. The required quantities of water and salt may be ascertained exactly and kept the same for each boiling.

4. Complete saponification can be accomplished with extreme rapidity owing to the facts that (a) the whole quantity of lye, fat and water are added at once, (b) the join hitherto waited for hours occurs after a very short time and (c) the deposit after every separation takes place quickly, as the mass is very thin and severs immediately.

5. The latent heat of the soap mass is thoroughly utilized in the process of drying and cooling, and is said to amount to as much as 65 per cent of the total amount of heat required.

6. The soap powder obtained as an end product is extremely suitable for storage in silos, is clean and easy to handle, and causes no waste in the shape of cut or soiled pieces.

In addition to the foregoing, there are some interesting claims made concerning the inexpensive production of soap by the method described. Whether or not the process is adopted in the future on a really wide scale remains, of course, to be seen. It cannot be denied, however, that there is a good deal of point and interest in the various criticisms that the evolution of this process implies against existing methods.

Fatty acids and their esters were converted into fatty alcohols by catalytic reduction at high pressures. For example, coconut oil was treated at 270-320° C. for 30 minutes with initial hydrogen pressures of 100 to 120 atmospheres. The catalysts were oxide-, metallic- and acetic acid-activated metallic systems of copper chromium, barium, copper chromate and copper carbonate. The copper carbonate catalyst gave a conversion of more than 90 per cent. The yield seemed to be best when the amounts of oil treated were less than one-fourth of the volume of the autoclave. Other catalysts gave yields of 88 per cent. At pressures of 25 atmospheres of hydrogen, yields of 60 to 70 per cent were obtained. Temperatures of 300-325° C. were best for the hydrogenation of fatty oils, and 270 to 300° for the hydrogenation of esters. Sei-ichi Ueno and Sei-goro Ueda. *J. Soc. Chem. Ind., Japan* 38, suppl. binding 479-86 (1935).

The benzene used in the French dry-cleaning industry is a coal-tar product boiling at 90-160° C. It contains only traces of benzene and consists of a mixture of C<sub>7</sub>H<sub>8</sub>, xylene and cumene. The vapors exhibit no bactericidal action at 37° C. over a period of 24 hours. The liquid does not possess any greater activity and cannot retard microbial development even at a concentration of 88.3 per cent. A. Rochaix and Y. Dumas. *Chimie & Industrie* 34, 575-6.

Bleaching and washing agents consist of a mixture having an alkaline reaction of per-compounds and salts of phosphoric acids which are poorer in water than metaphosphoric acid. An example is a mixture of 10 parts of sodium perborate, 14 parts of sodium pyrophosphate, 8 parts of soda ash, and 1 part of magnesium silicate. Mixtures may also contain soap. Henkel & Cie G. m. b. H. French Patent No. 733,871.

Soap substitutes having wetting and foaming properties are obtained by sulfonating acid amides of the general formula RO (or S or NR')XNR''R''', in which R is an aliphatic, aromatic or cycloaliphatic residue, R' and R'' any organic residue or hydrogen, R''' an aliphatic or hydroaromatic residue having at least 6 carbon atoms, and X an aliphatic carboxylic or sulfonic acid residue. The products may be used in the cosmetic and pharmaceutical industries. Henkel & Cie. G.m.b.H. British Patent No. 428,153.

A relatively simple physical-chemical test may be used to measure quantitatively the wetting and spreading properties of aqueous solutions of soaps and other wetting agents. Spreading coefficients are determined with reference to a refined mineral oil. A du Nouy interfacial tensiometer is used for measuring the surface and interfacial tensions. By placing a drop or two of mineral oil on a level sheet of celluloid and spreading with the finger to a thin film, and placing upon this a drop of aqueous solution at the center of the film, the aqueous solution will spread only if it has a positive spreading coefficient with reference to the oil. H. L. Cupples. *Ind. Eng. Chem.* 27, 1219-21 (1935).

Canadian pilchard oil is somewhat similar to the sardine oil of California. If handled through an efficient central refinery, a dependable market could undoubtedly be built for it. The raw pilchard oil is a light brownish green oil, with a not unpleasant odor. It is produced from fresh pilchards by steaming, pressing and separating the oil from the press liquors. It is a highly unsaturated oil, having an iodine value between 173 and 183 or higher. It contains considerable quantities of solid stearine, which settles out at low temperatures. The raw oil has an acid value of not more than 3, and its unsaponifiable portion does not exceed 0.5 per cent. The raw oil may be used as a base for soap powders and laundry soaps.

Stearine, the soft fat obtained by cooling and filtering raw pilchard oil, contains appreciable quantities of liquid unsaturated oil. It is hydrogenated to produce domestic shortening and soap bases. The stearine is first alkali-refined and bleached, then hydrogenated. A tasteless, odorless white fat is obtained, suitable both as a domestic shortening for deep fat frying, and as a base for laundry and toilet soaps. Progress Repts., Pacific Fisheries Exptl. Sta. *Can. Chem. Met.* 19, 306 (1935).



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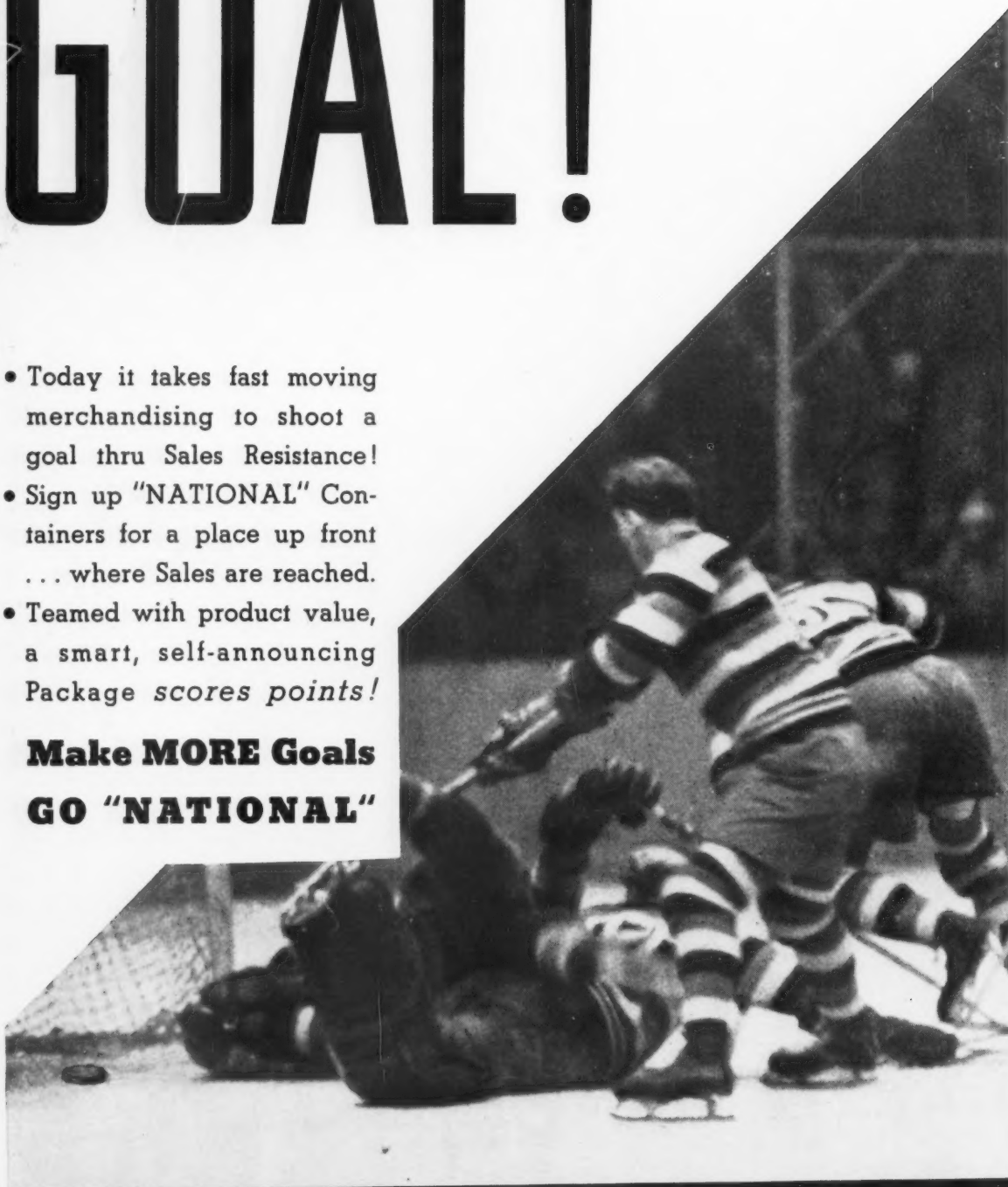
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PROFESSIONAL INSECT CONTROL SERVICE  
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January 27, 1936.

Mr. R. J. Prentiss  
R. J. Prentiss & Co., Inc.  
100 Gold Street,  
New York, N. Y.

Dear Mr. Prentiss,

Your "Flea Facts", appearing in Soap for January, while as intended, is a bit of homely philosophy, never the less contains a most truthful and helpful message to manufacturers. Would that more distributors of basic insecticides could use their efforts to render a truer service to manufacturers and commercial consumers than quibbling over technical points.

As a user of your basic insecticides in commercial insect control, we are grateful for the advances and contributions you are making in our field.

Again we congratulate you.

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CHARLES DENNY & CO., Inc.

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# SANITARY PRODUCTS



A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

## The Editorial View

**F**ORMULA for a *cheap* pine oil disinfectant published recently in England calls for pine oil, potash linseed soap, and denatured alcohol. If it is merely cheapness which is being sought, we believe that we could give them two or three other formulas which would be somewhat cheaper. However, it is this everlasting search for cheapness,—and not quality,—in sanitary products which is at the root of most of the troubles of the business today. The firms specializing in cheap products are the ones who seem to be having the toughest time in the business. Maybe buyers would consider something else besides price if some of these “cheap” sellers would think to mention it.

In spite of the fact that this specification is utterly ridiculous, — the national association minimum standard is 60 per cent kill,—there will probably be plenty of bids to supply the material “as per specifications.” And these bids will likely include the usual quotations of 59 and 69 cents per gallon,—if the call for bids is not withdrawn because of protests from legitimate firms in the industry.

We wonder just how long this kind of buying for Federal and state requirements of insecticides will continue. When is there going to be some government agency to tell these bureaus how and what to buy?

**F**IVE thousand gallons of liquid insecticide are called for in a bidding for the Veterans Administration, Washington, D. C. The specification as issued in conjunction with the bid forms is quite ambitious, to say the least. It calls for an eighty per cent kill by the Peet-Grady Test. The product must be non-staining, non-poisonous, non-irritating to nose, eyes, or skin, and shall leave no odor. Now, as any insecticide manufacturer knows, this is quite some specification. There is not a product on the American market which can qualify, and no independent laboratory which we know is equipped to test the material as outlined. Perhaps the Department of Agriculture could do it, but they are busy with other things.

**W**ITH some interest, we note that *Consumers Research, Inc.*, which has spent the better part of recent years publishing books condemning innumerable advertised soaps, drugs, dentifrices, antiseptics, etc., and advising its subscribers on what and what not to buy, has had a strike of employees on its hands for some time past. Just recently, it was held to have violated the National Labor Relations Act for discharging employees who organized a union, and was ordered by the National Labor Relations Board to rehire three persons whom it had discharged. Apparently it wants to organize its subscribers for their “protection,” but does not want its employees to organize for the same purpose. It *does* make a difference whose ox is gored.

# NEWS . . . . .

## West Executive Dies

Harry Everett Daniels, head of the railway supply department of West Disinfecting Co., Brooklyn, and connected with the firm for over twenty-five years, died January 19 at the Evanston Hospital, near Chicago, of pneumonia. He was sixty-two years old. He is survived by his wife, three sons, Charles Everett and Harry C. Daniels, and two daughters, Mrs. Gwendolin Miller and Miss Jean Daniels.

## Offer New Roach Powder

A new non-poisonous roach powder and a poison for the extermination of rodents is now being offered by Franklin Exterminating Co., Columbus, Ohio.

## New Chemical Specialty Firm

C. W. Blom has recently organized Chemical Specialties, Inc., in Holland, Mich., to deal in chemicals.

## L. T. Piper with Adv. Agency

Linn T. Piper, formerly assistant to the president of O-Cedar Corp. and sales manager of the Pep-sodent Co., has joined Ferry-Hanly Co., advertising agents. He is in charge of merchandising and new business at the New York office.

## Arnold Athelstan Married

Arnold Athelstan, junior partner of the Athelstan Products Co., Minneapolis, manufacturers of the G.T.A. line of roach, mice, and rat preparations, was married Jan. 28 to Miss Louise Bonhus at Our Saviour's Lutheran Church, Minneapolis. The couple left for northern Minnesota for a wedding trip immediately after the ceremony. They will reside at 4303 Bryant Ave., S., Minneapolis. Miss Bonhus is the daughter of Mr. and Mrs. C. A. Bonhus. The father of the groom, G. T. Athelstan, is head of the Athelstan Products Co.

## "No-rub" Polish

Wilbert Products Co., New York, maker of "No-rub" floor wax, is now offering a furniture polish under the same mark.

## Wax Manufacturer Returns

Herbert F. Johnson, Jr., head of S. C. Johnson & Sons, Racine, Wis., has returned from an aerial expedition into the interior of Brazil in search of new wax supplies. Their venture was cut short by complications arising from the recent Brazilian revolution.

## Punish F.D.A. Violations

Slick Shine Co., Newark, N. J., has been fined \$25 by the U. S. Food and Drug Administration for a violation of the U. S. Caustic Poison Act which involved shipment of "Champion" beer pipe cleaning compound. The product contained 31.8 per cent sodium hydroxide and was not labeled with the correct marking prescribed in the act. For shipment of "Apex Cresola" disinfectant containing more than 5 per cent of carbolic acid and not labeled with the markings required by the law, the Apex Soap & Sanitary Corp., Pittsburgh, was fined \$50.

## Doner with J. R. Watkins

Dr. Melvin H. Doner, formerly of the University of Wisconsin, has become associated with the J. R. Watkins Company of Winona, Minnesota as entomologist. His work will consist in the further development work in plant and animal insecticides. Watkins is one of the largest manufacturers of household insecticides in the U. S.

## Wilson & Bennett Appoints

Harry F. Lapan has been named general sales manager of Wilson & Bennett Mfg. Co., Chicago, and Ira Flatt has been made general factory manager in two recent executive promotions.

## New Polish Manufacturer

McLean Specialties, Inc., has started operations at 1458 Randolph St., Detroit, manufacturing polishes and household cleaners. John G. Emery heads the new concern.

## Arrow Opens Office

Arrow Exterminating Co. has opened an office at 403 East Jersey St., Elizabeth, N. J. I. D. Livergood is president of the company and M. F. Geserich is treasurer.

## Ship Disinfectants 3rd Class

Although the new Consolidated Freight Classification No. 10 gives no classification on disinfectants other than medicinal, on application it was found that shipments of general disinfectants in boxed metal cans, less carload, still take 3rd class rates, as formerly.

## Penick Adds New Plant

S. B. Penick & Company, New York, announce the completion of alterations and equipment of an additional plant recently purchased to provide further storage facilities as well as to house their growing water soluble gum department. In this plant a modern and specially equipped milling unit has been installed for the milling of Tragacanth, Arabic and Karaya gums in which they specialize. The new plant, containing some 50,000 square feet of floor space, has additional connecting land for expansion purposes. It is located in Hoboken, within a few blocks of their extensive Weehawken plant.

## Sodium Hypochlorite Taxable

Sales of sodium hypochlorite solution are taxable under the 10 per cent federal cosmetic tax, according to D. S. Bliss, U. S. Deputy Commissioner, Sales Tax Division, when such products are sold under recommendation for use for toilet purposes. Where there is doubt as to taxability it is recommended that samples of the product be submitted to the U. S. Bureau of Internal Revenue, accompanied by labels, cartons and advertising matter under which the product is sold.

# Fly Sprays for Animals

Revised Regulations Concerning Their Labeling  
Issued by the Food and Drug Administration, Washington.\*

**F**LY sprays for animals are subject to the provisions of the Federal Insecticide Act if shipped in interstate commerce, exported from or imported into the United States, or sold in the District of Columbia or any territory of the United States. This act is explicit in the requirement that the labeling of any articles within its purview shall not be false or misleading in any particular. The responsibility under the law for all labeling statements rests with the manufacturer or shipper.

*Sprays for Killing Flies:*—In order to destroy flies with a spray the material must be atomized in a fine mist so that the flies will be enveloped in it. There is no known substance that, when applied to animals, will kill flies lighting on the treated animals. Furthermore, it cannot be truthfully claimed that the use of even a killing fly spray will effectively control flies in stables unless the breeding places of the flies are also treated. Therefore, any claims for the control of flies in stables or similar places should include directions for use of the spray so as to envelope the insects in the mist and for the treatment or removal of their breeding places.

*Sprays as Fly Repellents:*—The value of fly sprays as repellents is limited. Experiments conducted by the Bureau of Entomology and Plant Quarantine of this Department have shown that certain materials applied as sprays to animals have temporary repellent properties against stable and horn flies, but none have been found that are effective against other species of flies, such as horse flies, bot flies, grub flies and warble flies which so commonly attack and annoy livestock. Repellency claims should therefore be limited to those for the particular varieties of flies against which the product is known to be effective. Claims for repellent action against "flies" without qualification constitute misbranding under the act.

*Preparations for the Screw Worm Fly:*—Fly sprays that consist essentially of mineral oil will not repel screw worm flies. Pine-tar oil (of a specific gravity 1.065 and 1.085) applied over wounds, cuts, scratches or abrasions of animals will prevent screw worm flies from depositing eggs therein so long as the covering is maintained. Benzol applied in wounds which have already become infested with screw worms is effective in killing the worms. While coal tar phenols and other caustic or irritating substances may kill screw worms in wounds, they should not be used for this purpose since they damage healthy tissue and thereby create a favorable

environment for further screw worm infestation or may even cause general poisoning of the treated animal.

*Poisonous Properties of Fly Sprays:*—Oils in general are injurious to animals and, particularly if heavily applied, may do more damage than good. Therefore, the time, frequency and manner of application, as well as amount of product used, should be specified.

Unqualified statements to the effect that oils are "safe", "non-poisonous", "harmless", and "will not injure the hair or hide of animals" are not generally true and should not be made.

*Tainting the Milk and Effect on Milk Production:*—An unqualified assertion that a given product will not taint the milk is always questionable because this can be truthfully said of few, if any, fly sprays which are on the market, unless they are very carefully used. The directions should include a warning to spray long enough before milking to allow the spray to settle, to keep the spray away from milk or milk utensils; and to wash the udder and teats with warm water and soap before milking.

No statement which would lead a purchaser to believe that the use of a preparation will increase milk production or butterfat above the normal yield should be made. The fact that individual cases may be cited where increases were apparent does not justify the general conclusion that similar results will be obtained regardless of conditions. In fact, it has been shown that under some conditions milk production has decreased following treatments with oil sprays.

*Disinfectant Claims:*—Mineral oils are not disinfectants and oils in general are not recognized as satisfactory disinfectants. Therefore, claims for disinfectant value of fly sprays should not be made unless the type of oil and method of application are such that disinfection will be accomplished under all conditions for which it is so recommended.

*Disease Prevention Claims:*—Representations that fly sprays will prevent insect-borne diseases—as, for example, "Will drive away flies and thus prevent infectious diseases"—are objectionable and unwarranted because they imply a promise of benefit in preventing the spread of disease which fly sprays cannot be relied upon to fulfill.

*Ingredient Statement:*—The Insecticide Act requires that any preparation containing an inert ingredient must bear on its label a statement of the name and percentage amount of each and every such inert ingredient and the

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\* Revised December 16, 1935.



# The Quality Problem in SANITARY SPECIALTIES

By LEONARD B. SCHWARCZ\*

Clifton Chemical Co.

**T**HERE is a wide variation between actual and potential sales of sanitary products. It is evident that appreciably more could and should be used by the public in general as they are distinct aids to cleanliness, well-being and health. There are probably quite a few reasons why the amount used is not greater, and one of them, no doubt, is that there is an ever-growing number of inferior materials being marketed. This has a tendency to give the entire industry a "black eye", thereby directly affecting its volume. From personal experience you have most likely come across insecticides with a pyrethrum content not enough to give a mosquito pyorrhea; or liquid soaps that appear to be 99.44 per cent aqua pura,—others that should be labeled epidermis destroyers. Then there are coal tar disinfectants that smell to high heaven of sewer gas; and rubless waxes made mostly of paraffine, that will retain wearing qualities and gloss on the floor until people start walking on it. So it goes all along the line. The result is that in many cases, purchasing agents who have been stung once or twice, become skeptical and lose confidence,—and perhaps rightfully so.

Many sanitary products are more or less blind articles and only the larger consumers have their own testing laboratories. Few buyers want to go to the expense and bother of having materials analyzed or tested on the outside and many would be frank to admit that they would not recognize high quality if they saw it. Salesmen of questionable articles are usually as flowery and persuasive in their sales presentation as others, so the buyer often discounts all the glowing verbiage and is apt to buy the cheapest article, hoping for the best, but often getting the worst of it.

High grade products, truthfully represented, would go a long way towards building up customer confidence, respect and good-will. How much better it would be if liquid soap were made not only in proper concentration, but from pure Cochin coconut oil, as well, perhaps with the addition of a percentage of olive oil, and aged in the manufacturer's plant for a few months. Such a soap would give better satisfaction than a good many that are offered on the market today.

Coal tar disinfectants should be made from straight tar acids without the addition of large amounts of neutral or dead oil, and the inert matter should not be greater than 10 per cent. Today there are coal tar disinfectants on the market which contain 30, 40 or 50 per cent inert matter. In other cases, the disinfectant is made up by the manufacturer and sold to the jobber with instructions as to how to add water or oil to reduce cost. Such practice is detrimental to the welfare of the industry.

In regard to pine disinfectants, the average quality has lately deteriorated. There are many so-called pine disinfectants being offered at present made from resin oils, destructively distilled pine oils and other cheapening materials and the inert matter is creeping up.

Floor scrub soaps should be made from pure vegetable oil as per the specifications of the Associated Floor Covering Manufacturers. At present a few of the floor soaps offered are made from rosin, fatty acids and other cheapening materials and are secondary grade products at best.

Rubless floor waxes have been gaining in popularity, but on examination of eight brands on the market, only two were manufactured from No. 1 carnauba wax as determined by the milk-white color of the finished product. No. 2 and No. 3 grades of carnauba give a grayish product and are not as desirable. A standard should be set for the degree of gloss as well as for wearing qualities. These latter two points are left solely to the judgment of the individual manufacturer.

Deodorizing blocks and cakes should be made from pure paradichlorobenzene with only suitable perfume and possibly coloring and nothing else incorporated. Of late, there have appeared on the market a number of adulterated products which are sold at extremely low prices. Some of these adulterants are salt, inert powders and one has even appeared which seems to be made from para and silicate of soda mixed together and then poured into forms cold. Needless to say, such adulteration tends to harm reputable manufacturers as well as the ones at fault.

There are suitable specifications for insecticides,—perhaps the 60 per cent kill by Peet-Grady Test is satisfactory. There are a good many products offered for sale to the consuming public in bulk as well as in hardware stores which on test have been found to be not only inferior, but nearly worthless. How is the public to determine what is good, bad or mediocre? A nationally advertised brand is more apt to be of high quality, but, then again, some unknown brand may be equally as good or even better, and sold at a lower price,—it is all quite bewildering to the consumer.

In other fields, the buying public seems to place reliance on the opinions of outside independent sources. Manufacturers of household appliances take pride in putting the *Good Housekeeping* seal of approval on their products and make a strong talking point thereof. Many buyers of floor soaps will not purchase a brand unless it is on the approved list of the hard surface floor covering manufacturers.

Subscribers to Consumers' Research are rapidly increasing. Of course, an organization such as this latter which tries to cover anything and everything is likely to go astray in some of their reportings as it is not feasible to have sufficient facilities to be authoritative on every item. It perforce must base some recommendations on the say-so of persons whom they consider authorities, but, in some instances, may have axes to grind. Nevertheless, it is evident that the buying public, in its groping to learn the truth, leans in an increasing degree on unbiased outside opinion, tests and approvals.

The National Association of Insecticide and Disinfectant Manufacturers has an excellent opportunity to render a distinct service to the purchasers of sanitary products by approving those which are of high quality and manufactured by reputable concerns. This suggested stamp of approval, for which a nominal charge may be made, perhaps should be available also to non-members at a slightly higher rate.

To sum up, the benefits of the proposed step would be as follows:

1. Instead of more or less trusting to luck, buyers would have a safeguard available to them and very often

\* Report Committee on Sanitary Specialties, 22nd annual meeting, Natl. Assn. Insecticide & Disinfectant Mfrs., New York, Dec. 1935.



will be willing to pay more money if assured that the goods purchased are of unquestionable good quality.

2. It would tend to discourage manufacturers and jobbers of inferior products.

3. It would be an aid to salesmen of manufacturers making approved products, inasmuch as they would find selling far easier.

4. Manufacturers who would use the Association's seal of approval in their literature and advertising would find that it would lead to increased sales and profits.

5. It would increase the revenue of the N.A.I. & D.M. and help get new members from those who make sanitary supplies and do not now belong to the Association. It

would also increase the prestige and scope of the N.A.I. & D.M. inasmuch as the Association may in time become known to the buying public as an organization worthy of confidence, whose aim it is to safe-guard the interests of the buyer of sanitary products.

6. It would help to put the industry on a higher plane, aiding the buyer as well as the seller of approved products.

Reports, in the past, were usually written, read and promptly forgotten, but in the opinion of the present committee, this matter affects the welfare of all of us. It is recommended that a committee be appointed to give this report further consideration.

## Training Sanitary Supply Salesmen

By S. S. SELIG\*

*The Selig Company*

**T**HE subject which I am about to discuss is one that I feel every one of us present employing salesmen must be deeply interested in, and because this interest is so general, and because there are so many very valuable ideas to be exchanged, I believe that this time can be best spent by a discussion from the floor, and when we return to our respective offices, we should carry with us new and improved plans for the better presentation of our respective products through better trained salesmen, and better selected salesmen.

From my own experience I will say this:—the proper training of salesmen and equipping them with the right knowledge and sales tactics can be classed as one of our greatest problems. Now and then we get stuck with men who are unscrupulous, who will pad orders and who will send in forged orders, but all of this in the due course of time comes to light, and all we can do is to weed out this class,—which class I am glad to say is becoming gradually extinct as time goes on due to the higher standards that are now being followed in the disinfectant industry. And along this line, if employers will demand references from prior connections and consult with them, and if a candid exchange of confidences is given, the crooked salesman will in time either have to change his tactics or get out of the sanitary products industry.

Now, having eliminated the unfit, this brings us to the normally intelligent and honest individual, who however, is inexperienced and untrained in this industry. Assuming that the prospect gives promise of sales ability in attractive personality, diplomacy and sufficient aggressiveness (and picking winners every time is a fine art of which we all would like to boast, but in which none of us is infallible), the next step is to "put across" to his receptive mind the technical factors of the industry and as much of the chemical science that enters into it as is necessary for him to use in explaining to a customer just why such-and-such a product is the one that should be used for a certain purpose. We may keep a "green" man as much as ten days to two weeks in our plant and sample rooms, studying each product, its qualities and its proper use and application. In fact, we give him about all the information he can absorb and pretty nearly everything but the formula.

With this fundamental knowledge as a foundation, we send him out as a junior salesman under the tutelage of one of our best producers, and he travels with the senior salesman for an indefinite period until he has learned how to approach customers, how to arouse and

create interest in products customers have never before used, how to sell a bill so that it will stay sold, and also how to pick customers from whom we will have a chance of collecting our bills. After these preliminaries, we give him a territory and put him on his own, and it is up to him if he has any sales ability, if he is willing to work, and is willing to take and follow instructions, to make good.

The above applies to the young man who is inexperienced. As to the experienced man coming to us from another company, or one who has previously been in our employ, this is an individual matter and each case is handled on its own merits. Given a certain amount of sales ability, the willingness to work and honest intentions, his chances for success are better than an even break. However, I am sure that we have all at some time or other tolerated men for long stretches who possessed no salesmanship and who really should be in the shipping department or driving a truck. There is no charity in keeping a man working at a certain calling for which he is unfitted, and in the end it only means heartbreaks for him and expense for the company.

I am sure that there is much interesting data to be had from this gathering and I invite discussion and solicit your suggestions gleaned from your years of experience in the handling and training of salesmen,—from which valued discussion we can formulate our individual plans for raising the disinfectant industry to higher planes of business ethics from the salesmanship standpoint.

### DISINFECTANT IGNORANCE!

A study of small-package sales of disinfectants in retail stores in an Eastern community reveals the relative ignorance of retailers in respect to these products,—druggists, grocers, and hardware dealers alike. What does the dealer know about a "good disinfectant," and what does the public know? Read "Disinfectant Ignorance" by Florence E. Wright in the next issue of SOAP.

\* Report before the 22nd annual meeting, Natl. Assn. Insecticide & Disinfectant Mfrs., New York, Dec. 1935.

# SPRAYERS

## Their Importance in the Application of Insecticides

By H. B. LEWIS\*

Hudson Manufacturing Co.

**A** VERY interesting and very important relationship exists between the manufacturers of insecticides, disinfectants, and similar products and manufacturers of sprayers. This relationship is one which if properly exploited can be very helpful to you manufacturers in solving the technical problem of mechanical application. You spend tremendous sums in search for flowers of pyrethrum of the proper quality, type, etc. or for suitable pyrethrum extracts. You test and check continually the toxic strength of every run of your insecticide; you spend substantial amounts in charting your sales program. But all too often, at least during the recent lean years, you give entirely too little thought to the fact that all of these investments that you have so logically made, all of the care that you have taken, all of the planning that you have done and all of the expense that you have incurred to insure your product being satisfactory in the hands of the consumer can be completely nullified by permitting that consumer to use the product with a sprayer which is not properly designed or suited for the purpose.

The sprayer industry as an industry dates back about a half century, but of course at that time the world had not yet come to know the importance of and advantages from the use of insecticides and disinfectants. Earlier models of sprayers were naturally crude in design, laborious to use, and none too efficient in operation, and they were primarily intended for spraying paris green and similar agricultural insecticides on the potato plant and other garden truck where the problems of application were quite simple and easily mastered. With the development of insecticides and disinfectants for use in the home, school, theater, hotel, hospital and similar places we encountered entirely different problems insofar as the type and character of the sprayer was concerned. The housewife would not willingly accept a cumbersome, hard-to-use device that the man in the field could get along with. Neither would she condone the veritable rain of insecticide upon her rugs, curtains, draperies, furniture, etc. She refused to consider using an insecticide and a sprayer which made a mess of its surroundings. You manufacturers of insecticides, disinfectants and similar products brought those complaints and problems to the manufacturers of sprayers and after a great many months of close co-operation and study we finally developed types which would measure up to the higher standards instituted by the use of your products and sprayers in the home.

Those developments included first of all a sprayer which was light in weight and easy to handle, one that was properly designed from the standpoint of attractive appearance so that it would not look hopelessly out of place among the other items of household equipment, one that was attractively finished so as to be in keeping with the housewife's idea of modern, attractive merchandise, one that operated easily so that she could use it as frequently as occasion demanded without excess energy or fatigue, and one that could be used in almost any position including vertical because as she learned more and more about the problem of exterminating insects in the home she learned the necessity of getting the spray up into the upper corners of the closet, the bedroom or wherever else the insecticide was being applied.

In addition to these very important essentials we dis-

covered how to build a sprayer which would completely vaporize the product so as to keep it suspended in the atmosphere and give it maximum opportunity for effectiveness. We learned how to develop a sprayer which would not drip in operation and saturate the rugs and furniture. We learned how to build a sprayer which was entirely free from the trouble of syphoning, the cause of the former all too frequent complaint on the part of the customer that the sprayer leaked. And when all of those things had been worked out we then were able to offer you manufacturers an article which was a fitting companion for the greatly improved and much more effective products that you were producing as the industry developed and as its standards were set higher and higher.

For a period of several years we worked very closely, having distinctly in mind the unpleasant experiences of earlier times when the use of a sprayer not properly selected, not properly proportioned and not properly designed for household purposes brought a flood of complaints and condemnation not only of the sprayer but of the insecticide as well and an attitude on the part of the general public that the pests themselves were easier to get along with than was the prescribed method of treatment. And during those years the insecticide business reached its highest level from the standpoint of volume, highest level from the standpoint of profits, and highest level from the standpoint of widespread consumer acceptance.

Then as we entered into the period of depression, with volume of business in all lines very sharply curtailed, with operating margins necessarily sharply reduced, with consumer purchasing power cut almost to the vanishing point, there ensued a struggle for business such as brought the entire industry to the point of completely forgetting some of the lessons for which all of us had paid so dearly in the past. Price again became the paramount and predominating influence and for the sake of a few pennies in the actual cost of the sprayer many, not all, manufacturers of insecticides, disinfectants and similar products were willing to condone a poorly designed, improperly constructed and hopelessly inefficient sprayer. They were so imbued with the importance of keeping down to the lowest possible figure the first cost to the consumer of the service they were offering that they completely overlooked the importance to the consumer and to themselves of insuring the successful and efficient application of their product. The result was that the market was again flooded with sprayers lacking in the essential mechanical specifications which you insecticide manufacturers and we sprayer manufacturers had worked out and developed over a period of several years of costly experiments and painful experiences.

We are now apparently on the threshold of "Better Times." Consumer purchasing power has expanded very sharply this past season over the past years and the outlook for still further improvement in that important factor in 1936 is better than ever. The consumer public is again developing a realization of the importance of quality and true value in their purchases. This is the ideal time for you and for us to band together in an effort to improve the general level of the industry by once more adopting tried and proven principles in the selection of spraying equipment, realizing that in the proper choice of the type of sprayer lies a very important factor in determining the success or failure of your product.

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\* Paper before 22nd annual meeting, National Association Insecticide and Disinfectant Manufacturers, New York, Dec., 1935. Read by M. L. Harrison.

# A Resume of Insecticides

## A Report on Literature and Patents in 1935\*

By OTIS M. POOLE

*Derris, Incorporated*

**A** REPORT of this nature needs no introduction as it consists merely of a review of literature and patents, but my Committee would like again to register its indebtedness to Dr. R. C. Roark for his valuable assistance in assembling our review.

### Literature

Bishopp<sup>1</sup> discusses the research and control work being conducted on the mosquito problem by the U. S. Dept. of Agriculture and other agencies.

Dove and Parman<sup>2</sup>, King and Bradley<sup>3</sup> and Robinson<sup>4</sup> report respectively on the outbreak of, or Screw-worm situation in, Florida, Alabama, and Southeastern United States; and discuss its life history, extent of infestation, control, etc.

Hartzell and Wilcoxon<sup>5</sup> discuss tests on thiocyanates as insecticides.

Pearson<sup>6</sup> reports an improved method of measuring repellence of cattle sprays in field tests.

Roark and Busby<sup>6</sup> discuss 315 organic sulfur compounds as insecticides and fungicides.

An anonymous writer<sup>8</sup> reports that insecticides for sale in California should carry no label statements such as "non-poisonous", "safe", "harmless to humans or animals", etc., according to a notice issued by the State Department of Agriculture. Pyrethrum insecticide manufacturers are requested to give on their labels the per cent pyrethrins and per cent inert ingredients.

An anonymous writer<sup>9</sup> states that experiments by the U. S. Department of Agriculture indicate that the cotton stripper can be altered to harvest pyrethrum satisfactorily.

An anonymous writer<sup>10</sup> enumerates sodium fluoride, pyrethrum, borax and derris as the materials employed in roach powder. The merits of various combinations are discussed. Sodium fluoride-pyrethrum mixtures have come to be looked upon as the standard roach powder.

Haller and Acree<sup>11</sup> report a new method for the determination of pyrethrin II which is based on the fact that it is the pyrethrolene ester of chrysanthemum dicarboxylic acid methyl ester and therefore yields methyl iodide when boiled with hydriodic acid. The latter is determined by the volumetric method of Viebock and Schwappach as modified by Clark.

Nagasawa<sup>12</sup> states that of three chemical methods of estimating the active principle of pyrethrum flowers, Gnadinger-Corl's colorimetric method is recommended. No difference in the pyrethrin content was found between the young and old plants. Dry Japanese flowers contain an average of 0.97 per cent pyrethrins. The quality of mosquito-repelling incense depends on the amount of pyrethrum flower used.

Powell<sup>13</sup> states that a successful liquid household spray must be safe and non-poisonous, have adequate toxicity against insects, its base must be non-staining and it must be pleasantly perfumed.

Ripert<sup>14</sup> gives information on the industrial cultivation of pyrethrum in Japan and in France, where experimental work has been going on since 1919 (this same information appears in condensed form in an article entitled "Pyrethrum Cultivation in France"). Methods of analysis and testing, action of solvents, estimation of pyrethrins, etc. are taken up at length.

Ripert<sup>15</sup> also states the choice of solvent for extracting pyrethrum flowers is very important. Unsaturated fatty acids may change to oxy-acids during storage, particularly when the flowers have not been baled in a hydraulic press. The presence of the oxy-acids prevents complete extraction of the pyrethrins by petroleum ether.

The method of analysis depends on the solubility of the barium salts of pyrethric acids in water, thus eliminating fatty acids. Pyrethrum extract is saponified by normal potassium hydroxide in methyl alcohol, the alcohol is expelled on a water bath under vacuum and the residue taken up in water. This solution is saturated with salt, barium chloride added and the mixture filtered to separate barium salts of fatty acids. The sodium salts of pyrethric acids contained in the filtrate are decomposed by hydrochloric acid, the pyrethric acids are extracted with ethyl ether and the extract washed with salt water to remove hydro-chloric acid. The ether is evaporated and pyrethric acids titrated in the presence of alcohol with 0.2N alcoholic potassium hydroxide. The solution is acidified with excess N sulphuric acid and volatile acids steam distilled. The distillate is extracted with petroleum ether, the extract washed with salt solution and titrated with 0.2N alcoholic potassium hydroxide. This gives the value for pyrethrin I. The aqueous distillate is titrated to give the value for lower molecular weight fatty acids not precipitated with barium. This value plus the value for pyrethrin I, is subtracted from the value obtained by titration before distillation, to give the amount of pyrethrin II. The method was applied to various commercial pyrethrum extracts and products, with an error in the results of the order of 1 to 2 per cent.

This information<sup>16</sup> is taken from the booklet "Le pyrethre Francais" by the same author.

Roney and Thomas<sup>17</sup> report that pyrethrum-sulphur mixtures give slightly better control than do sulphur alone of the belted cucumber beetle (*Diabrotica balteata*) and the bean leaf hopper (*Empoasca fabae*) but the margin of difference does not justify the extra cost. The percentages of control obtained with various pyrethrum-sulphur mixtures does not correspond to the proportion of pyrethrins they contain, according to the manufacturer.

Tattersfield<sup>18</sup> states that besides the rapid loss of insecticidal activity of pyrethrum due to oxidation and strongly activated by light, there is a slow decline in potency on storage caused by some other factor, possibly moisture. Heat is also destructive. Pyrethrum should be shielded from light and kept in a cool place.

Tattersfield<sup>19</sup> also discusses methods of estimating the active principles of pyrethrum and results of cultural investigations. A chemical method for the evaluation of derris and the fish-poison plants is urgently needed.

An anonymous writer<sup>20</sup> reports that analyses of roots and stems of *Derris elliptica* and *Derris malaccensis* both cultivated in the Belgian Congo, indicate that if yield of rotenone alone is considered the former is preferable but that the latter gives a larger yield of toxic substances.

Cahn<sup>21</sup> states the uncrystallizable constituents of derris root, usually called "resinous material," "ether extractive" or some such term, as well as rotenone, possess marked insecticidal properties.

Gersdorff<sup>22</sup> reports on the toxicity of rotenone and seven of its derivatives to goldfish.

Hamilton<sup>23</sup> finds that derris sprays containing the equiv-

\* Before the 22nd annual meeting Natl. Assn. Insecticide & Disinfectant Manufacturers, New York, Dec. 1935.





# Odocene

## For FLY Sprays

**O**DOCENE is an entirely new type of fly spray odor, having a clean, refreshing scent that is universally pleasing.

*The remarkable covering power of Odocene makes its use particularly desirable where economy without sacrifice of odor is paramount.*

Make your own tests with Odocene and be convinced of its superiority.

**PRICE**  
\$2.50 per lb.

**SAMPLES**  
Sample furnished upon request, together with full information.

### PERFUME SPECIALISTS

*We specialize in perfume odors for all purposes.*

*Write us regarding your problems—  
We can help you!*

There is no substitute for experience.

# AROMATIC PRODUCTS, INC.

15 E. 30TH ST. NEW YORK CITY -- FACTORY - STAMFORD, CONN.



alent of 1 per cent rotenone are satisfactory for summer control.

Headlee<sup>24</sup> reports that dusts made up with ground derris were much more effective in reducing feeding damage by the Mexican bean beetle than were dusts composed of fine gypsum impregnated with derris extract. Derris dust containing 0.8 per cent rotenone and 2.8 per cent total extractives was the most economical and practical form for use against the cabbage looper, imported cabbage worm and the caterpillar of the diamond back moth. Derris dusts are effective against the tomato horn worm, striped and spotted cucumber beetles, asparagus beetle, Colorado potato beetle, flea beetles and the squash vine borer, but do not affect the corn ear worm.

Huckett and Hervey<sup>25</sup> summarize results of investigations in New York on the use of derris and cube for vegetable pest control. Dust mixtures containing either powdered derris or cube root, prepared from roots having nearly the same average rotenone and total tubatoxin content, compared favorably in effectiveness with one another when used against cabbage worm. The differences in results obtained with mixtures of 0.5 to 1 per cent rotenone content were small and variable, but these concentrations were superior to 0.33 per cent dusts. Talc, clay, finely ground gypsum and sulfur-clay were satisfactory diluents. Spray mixtures containing derris powder were slightly more effective than those containing cube powder and neither were quite as effective as derris or cube dusts. Sprays containing 3 to 4 pounds of powdered derris root per 100 gals. with a suitable spreader gave most promising results. Acetone extracts of derris root of 5 per cent rotenone content, plus soap as a spreader, gave about as satisfactory results as powder derris in a spray mixture. The zebra caterpillar and the cabbage aphid were not satisfactorily controlled by derris or cube dusts. Derris and cube sprays and dusts have shown promise against thrips (*T. tabaci* Lind.) on cauliflower and against the Mexican bean beetle but neither were satisfactory against the corn ear worm.

Jones, Campbell and Sullivan<sup>26</sup> made chemical and insecticidal tests on 32 samples of *Cracca* collected in different parts of the United States, mostly *Cracca virginiana*. The relative effectiveness against house flies was tested for kerosene and acetone extracts. The relative effectiveness of the kerosene extracts was similar to that of the acetone extracts and the latter was well correlated to the degree of blue or blue-green color given by the Durham test. The insecticidal results were not well correlated to other chemical determinations. The most effective samples of *C. virginiana* root came from Texas. A sample of *C. latidens* root from Florida and on of *C. lindheimeri* root from Texas and seeds of the latter were highly effective. In spite of its lower content of toxic materials, it is believed that *Cracca* might be developed to an extent permitting competition with derris and cube.

Laan<sup>27</sup> reported that dry rotenone crystals exposed for 42 days to direct sunlight retained no activity. Derris powder is less sensitive than rotenone and, if dry and shielded from the sun, may keep for years. Spread in the sun it lost about 50 per cent of its activity after 3 days; the loss in the shade was much less. When mixed with water the powder was still equal to fresh powder after 4 to 11 days but deteriorated markedly after 25 days. In soap solution much of the activity was lost in two days. Rotenone is much more poisonous to insects than dihydro-rotenone.

Lacroix<sup>28</sup> states that both derris and pyrethrum are highly toxic to the tobacco flea beetle but the toxicity is lost in a few days after application to the tobacco plant.

Little<sup>29</sup> describes ecological studies and experimental cultivation of *Cracca virginiana* in Texas. This plant can be made to yield as many pounds of roots per acre as derris. It may be grown on marginal land and produced for a few cents per pound. It is a nitrogen-fixer and its stems and leaves have some value as hay. Marked variations

occur in the plants indicating different varieties, or perhaps species. Physiological tests are being conducted on these plants, eliminating the poor and growing the best, with encouraging results.

Miller<sup>30</sup> reports on the comparisons of *Derris elliptica*, *malaccensis* and *Sarawakensis* on certain insects, fish and rats, and concludes that there is little difference in the toxicity of the three species, and that rotenone content not necessarily a reliable index of toxic value.

Roney and Thomas<sup>31</sup> report that a dust containing 10 per cent derris, or 0.5 per cent rotenone, and 90 per cent 300-mesh conditioned sulphur were more effective and economical than any other dust or combination for controlling cabbage worms.

Roark<sup>32</sup> states the prospects of finding insecticides of low toxicity to man are much better in the organic than in the inorganic field. Vegetable products offer great possibilities for use as insecticides. Many potent and widely used insecticides are derived from plants such as tobacco, pyrethrum, derris, cube, hellebore, larkspur, quassia, red cedar, etc. Many of the insecticides of the future will undoubtedly be derived from plants.

Rowaan<sup>33,34</sup> gives comparative determination of rotenone in derris root by the Danckwortt or polarimetric and by the Roark or extraction methods which show in the majority of cases a higher yield of rotenone by the polarimetric procedure. In certain cases however, the yield of rotenone by the polarimetric method was considerably lower than by the extraction method. As a result of these findings, precautions should be taken until one method is proved to be superior to the other.

Schuitemaker<sup>35</sup> found the highest rotenone content in 32 samples of derris root was 10.6 per cent in *Derris elliptica* 22 months old and *D. malaccensis* 34 months old. The latter remained unchanged after a year's storage. There is apparently no correlation between total ether extract and rotenone content.

Tattersfield<sup>36</sup> states that rotenone, like the pyrethrins, loses its activity when exposed to sunlight and air. Dihydro-rotenone, a compound of the same order of toxicity as rotenone but more stable, has been suggested for use.

Walker and Anderson<sup>37</sup> in a resume of results obtained with derris and pyrethrum dusts against vegetable crop insects, state that derris dust containing 0.5 per cent rotenone gave satisfactory control of the cabbage looper (*Autographa brassicae* Riley) and the larvae of the diamond back moth (*Plutella maculipennis* Curtis), the striped cucumber beetle (*Diabrotica vittata* Fabricius) and adult squash bugs (*Anasa tristis* De Geer). Results against Harlequin bugs (*Murgantia histrionica* Hahn) were erratic. The Mexican bean beetle (*Epilachna corrupta* Mulsant) was satisfactorily controlled by a 0.75 per cent rotenone derris dust. Derris dust was not successful against the corn ear worm (*Heliothis obsoleta* Fabricius), the potato flea beetle (*Epitrix cucumeris* Harris), onion thrips (*Thrips tabaci* Lindeman) late in the season, or aphids.

White<sup>38</sup> states that derris dusts, home-mixed or commercial, containing from 0.5 to 1.0 per cent of rotenone, gave the most satisfactory results of any of the insecticides tested for cabbage worm control (derris, pyrethrum, Paris green, calcium arsenate, natural and synthetic cryolite). Several non-alkaline diluents, including finely ground tobacco dust, finely pulverized clay, talc, diatomaceous earth, infusorial earth and sulphur, proved satisfactory. Fresh pyrethrum dust, containing approximately 0.9 per cent pyrethrins, mixed with 5 parts of the same diluents as derris, also gave satisfactory results. Good control was obtained with a spray consisting of a derris root powder suspended in water, containing 0.02 to 0.05 per cent rotenone. Under some conditions a non-alkaline spreader or sticker was necessary. Sprays made by diluting pyrethrum or pyrethrum derris extracts gave fairly satisfactory results.

Whittaker and Glickman<sup>39</sup> have adapted the Gnadinger



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and Corl method for determination of pyrethrins by the reducing power, to the analysis of rotenone solutions. A standard solution of dextrose and an alkaline solution of rotenone are treated identically in a modified Folin determination for sugar. The precision is about 2 parts per 1000. The method gives high results for rotenone in derris root but it may be possible to find an arbitrary relationship between the reducing power of derris root and its killing power.

#### Patents

2,000,004. (May 7, 1935; applied August 26, 1931). Insect repellent. W. Adams, Hammond, Ind.—Standard Oil Co., Chicago, Illinois. An insectifuge comprises a mineral oil solution of an alkyl benzoate, wherein said alkyl group contains 1 to 6 carbon atoms. A quick acting insecticide or insectifuge is produced by combining the benzoic acid esters with mineral oil pyrethrum extracts.

2,001,767. (May 21, 1935; applied October 1, 1931). Octylsalicylic acid. A. Bruson and Otto Stein—Rohm & Haas Co., Philadelphia. Claims a new product, secondary octylsalicylic acid, a crystalline compound melting at 120° C. and possessing fungicidal properties, especially against organisms of the ring-worm type.

2,004,124. (June 11, 1935; applied May 6, 1930). Treatment of Tobacco for insecticidal purposes. R. G. Mewborne—Niagara Sprayer Co., Inc., Middleport, N. Y. A method of preparing an insecticidal product from tobacco plant material by stopping the life process at a certain stage, developing the optimum nicotine content by storage, and then heating to dehydrate the same.

2,005,797. (June 25, 1935; applied August 15, 1931.) Insecticide Composition. William Moore—American Cyanamid Co., New York. A solution in an organic solvent of a compound having the structural formula  $C_6H_5-(X-C-X')-N-C_6H_5$  in which X and X' represent hydrogen or alkyl groups, and N represents a whole number. Particular reference is made to mothproofing.

2,006,227. (June 25, 1935; applied Oct. 19, 1932.) Contact Insecticide. E. W. Bousquet—Grasselli Chemical Co. Describes an aqueous preparation containing technical soya bean lecithin as the essential active ingredient and sulfonated fish oil as a dispersing agent which is compatible with other contact insecticides such as nicotine, rotenone, and pyrethrum preparations. The phosphatide increases the toxicity of the nicotine, etc.

2,006,456. (July 2, 1935; applied Mar. 12, 1930.) Manufacture of Insecticides and Fungicides. J. H. James—C. P. Byrnes. Describes sulphonated products of light petroleum fractions such as gasoline, having incorporated in them a small percentage of an insect poison such as nicotine, derris root, copper and arsenic derivatives, etc., employed as insecticides and fungicides.

2,011,428. (August 13, 1935; applied May 4, 1931.) Light Stable Insecticide. V. Voorhees, Hammond, Ind.—Standard Oil Co., Chicago, Illinois. Describes a method for making pyrethrum extracts light-stable by adding an amino anthraquinone compound.

2,011,765. (August 20, 1935; applied Dec. 5, 1929). Insecticide and Fungicide. Marcus T. Inman, West Nyack, N. Y.—C. P. Byrnes, Sewickley, Pa. A composition containing sulphonated and hydrolyzed oxygen derivatives of aliphatic hydrocarbons (Penetrol) having excess acids neutralized, and a chemical compound resulting from a reaction between said product and a nicotine.

2,013,028. (September 3, 1935; applied March 12, 1931.) Insecticidal Oil. H. E. Buc—Standard Oil Development Co. Claims an insecticidal composition consisting of a non-volatile viscous petroleum oil containing not less than 0.1 per cent of rotenone and rotenoids and not less than 1.5 per cent of a non-volatile, highly halogenated hydrocarbon.

2,015,533 (September 24, 1935; applied March 16, 1932.) Mothproofing Composition. R. M. Ritter—Elkin

Park, Pa. A mothproofing composition comprising a dry solvent and brucine aniline.

Canadian Patent 348,380. Insecticide. Schotte and Gorenitz. Claims an insecticide composed of a solidified finely distributed mixture of a molten carrier and derris root or pyrethrum blossoms.

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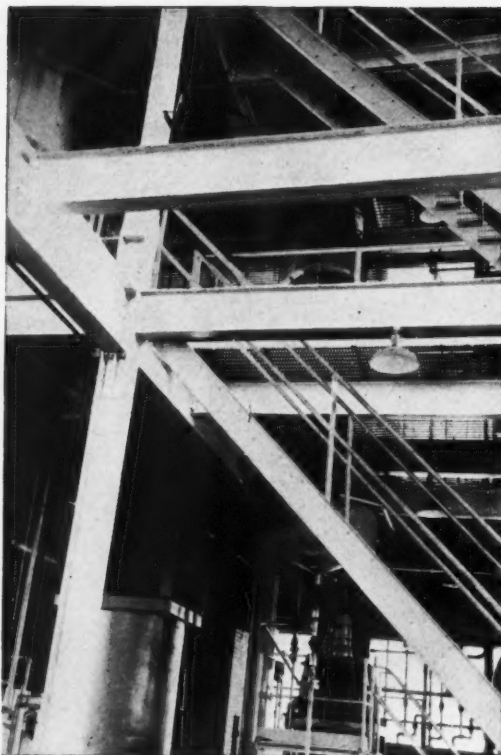
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# CHLORINE DISINFECTANTS—

## Their Role in Combating Communicable Diseases

By ARTHUR B. MILLER\*

U. S. Public Health Service

**M**ANY people when employing the words which refer to the methods of producing cleanliness with the scientific connotation do so rather loosely. Before discussing one of these terms, it would seem desirable, therefore, to define the most commonly used ones.

Cleaning "signifies the removal by scrubbing and washing, as with hot water, soap and washing soda, of organic matter on which and in which bacteria may find favorable conditions for prolonging life and virulence".<sup>1</sup>

Disinfection means "the destroying of vitality of pathogenic micro-organisms by chemical or physical means".<sup>1</sup>

Sterilization, the term most frequently misused, is defined as the act of completely freeing an object from pathogenic bacteria and other micro-organisms. This term differs from disinfection in that it indicates freedom from all micro-organisms—in other words, sterility—while disinfection includes the destruction of infectious micro-organisms only. Disinfection may, but not necessarily, include sterilization.

Knowing the meaning of disinfection, it is not difficult to interpret a disinfectant as any agent or factor which accomplishes disinfection.

### Communicable Diseases

A communicable disease may be defined as one in which the parasite capable of setting up the bodily reaction known as the disease can be transmitted from one person to another, either directly or indirectly.

A report of the Committee on Research and Standards of the American Public Health Association entitled, *The Control of Communicable Diseases*<sup>2</sup> lists 59 of them of sufficient importance to be of concern to health authorities. In their control, disinfection plays an important part. It is useful while a disease is running its course when it is termed concurrent disinfection or, after the afflicted person has ceased to be a source of infection, when it is called terminal disinfection. Concurrent disinfection involves the immediate disinfection of discharges of infectious material, or of articles soiled with such discharges; in either case the preventive measure to be completed before personal contact can take place with either the discharges or the soiled articles. Terminal disinfection is the process of so treating the clothing and environment of the patient that there will be no possibility of infection being conveyed after the patient has ceased to be a source of infection. In this particular list of 59 diseases to which man is subject, the Committee recommends concurrent disinfection in 39 of them and terminal disinfection in 23.

### Concurrent and Terminal Disinfection

It is probable that in the practice of curative medicine, concurrent disinfection ordinarily consists of disposing of discharges and articles soiled therewith by burning. Fire is by far the best disinfecting agent but chemicals such as mercuric chloride, carbolic acid, the cresols and

others have a place. In this group, chlorine should be found because likewise it is useful in this capacity.

Terminal disinfection can be described briefly as cleaning and cleaning has been defined previously as washing with hot water, soap and washing soda. In this operation, it is not difficult to conceive that one of the chlorine-containing compounds might prove to be a very useful assistant.

### Limitations of Value

Before considering more in detail the value of chlorine and chlorine-containing compounds as disinfecting agents, it is necessary to point out that normally they serve in secondary positions. By this is meant that with a few exceptions, the primary part in reducing or eliminating communicable diseases is taken by other agents or works. To illustrate, it is well known that filtration is more essential in procuring a pure water supply in a greater number of cases than chlorination. Let it not be said, however, that the relegation of disinfectants to this secondary position in any way subtracts from their worth or usefulness.

### Water Supply

The water borne diseases such as cholera, bacillary dysentery, paratyphoid fever and typhoid fever have always been of utmost concern to health officials. Although the decline in deaths from typhoid fever has been from 35.8 per 100,000 in 1900 to 3.3 per 100,000 in 1934, we will be faced with the need for constant vigilance to keep down the incidence of this disease. This is especially true for rural areas and for communities having a population less than 5,000 in which during the period from 1920 to 1929, 64.9 per cent of the outbreaks of this disease occurred.

As is known to all of us, technical knowledge and experience both indicate that the first line of defense in securing a pure water supply is filtration. A water filtration plant properly designed for the raw water which it must handle and capably operated by expert technicians is able to produce a satisfactory drinking water when measured by known and accepted standards. In such a plant, disinfection with chlorine should be set up as a safety factor. Too often, however, plants are not adequately designed, built or operated and then more reliance must be placed on the disinfecting process. This is not as it should be. The preferable way is to build so that the filtration works gives the desired results and then maintain an adequate disinfecting plant as an additional safety measure or for that time, when because of conditions which cannot be forecast disinfection is really needed. The water plant operator who knows that his disinfecting equipment is ready to go if and when it is needed must have a feeling of security which those less fortunate in plant equipment cannot have. In many modern plants practice does not follow theory and it has become customary to use chlorine constantly in spite of adequate works preceding the disinfection equipment. This is probably an outgrowth of the desire to check the quality of the water by testing to find a slight residual of chlorine therein. Its presence is indicative to the

\* Address before 22nd annual meeting, Natl. Assn. Insecticide and Disinfectant Mfrs., New York, Dec. 1935.

<sup>1</sup> *The Control of Communicable Diseases*. Report of the Committee on Research and Standards, American Public Health Association, Public Health Reports, August 9, 1935.

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There are still some cities and towns which depend on naturally clean surface waters for their supply and do not consider it essential to improve the water quality by filtration. Many of these use chlorine to disinfect. In cases of this kind, sole reliance for a water free from micro-organisms capable of producing disease is placed on the chlorination process. For this reason, this procedure can be considered a safe practice only when the raw water is of a very good grade and so maintained constantly.

There is a tendency on the part of many to ignore the need for having available disinfecting equipment and a supply of chlorine disinfectant if a raw water is drawn from an underground supply. It is true that water from deep wells has a better opportunity to be clean than surface water. It is also true that, if a particular source has a long record of bacteriological safety, the need of disinfection may seem very remote. However, supplies of this type have been known to deteriorate for one reason or another and precautions should be taken to meet such a condition if it suddenly makes itself evident.

Aside from simple chlorination or the addition of chlorine for the primary purpose of disinfecting after other purification devices have functioned, chlorine is added in some water treatment plants ahead of the filtering process. Here it reduces the bacterial load on the filters permitting them to adequately purify a water having a greater original bacterial density than they otherwise could.

In simple and pre-chlorination, there is no reason why calcium hypochlorite (also known as hypochlorite of lime, chloride of lime, bleaching powder or bleach) could not be used. In fact, it still is used in some smaller plants. However, in larger works it has been found that liquid chlorine is simpler and cleaner to handle.

### Water Mains

Many municipalities follow a prescribed routine of disinfecting all newly laid water mains. Either liquid chlorine or calcium hypochlorite is adaptable to this use. This is a commendable practice and should be followed in all cases.

### Emergency Use

Chlorine and chlorine-containing compounds have figured prominently in the emergency treatment of water supplies following disasters. State departments of health in Florida, California, New York and other areas where floods, hurricanes and similar disasters have struck have always relied on this chemical agent to assist in safeguarding health until normal conditions can be resumed and the disrupted water systems repaired.

### Vessel Waters

The Public Health Service, in its efforts to reduce water borne communicable diseases and consequent hospitalization, periodically inspects the drinking water systems on vessels engaged in interstate traffic. The large water storage tanks on ships occasionally need disinfecting, particularly after a vessel has been laid up. To accomplish this calcium hypochlorite is recommended.

Sufficient examples of the part taken by chlorine in the ever constant effort to reduce water borne communicable diseases have been given to indicate its importance. Without it, there could not have been a reduction of these diseases to the point where in 1934, 23 cities had no typhoid fever deaths and 50 others had only 0.1 to 1.9 deaths per 100,000 population. The manufacturing industry can be proud of the part this disinfectant has played in this struggle.

## Sewage Treatment

All of our largest water supplies and a large proportion of all supplies in this country are drawn from surface sources. For that reason it is becoming increasingly important in our densely populated areas to reduce the pollution loads on our rivers and other bodies of water. A source of drinking water is a prime requisite for any community and to continue to pollute such a source to the point where it becomes useless as such is sheer folly.

Waters have other uses than for domestic purposes. These coupled with its primary use for drinking have made people much more sewage-treatment minded. In this field, disinfectants have a definite place. Although the major purification process probably always will remain one of biological, mechanical or chemical considerations, still chlorine as a disinfectant or a killer of micro-organisms is used as a final step in many major plants where a highly purified effluent is required.

Sewage discharges, unless adequately treated, menace our drinking water sources by the addition of pathogens capable of reproducing the water borne diseases previously enumerated and, in addition, pulmonary tuberculosis and anthrax. In measuring the effectiveness of chlorine against the pathogens which produce typhoid fever, the bacteriologists have shown that it is necessary only to measure the reduction of the colon bacillus, an organism living in the body under the same conditions as *B. typhosus*. This procedure is followed because *B. coli* are isolated more easily than *B. typhosus*.

Tiedeman<sup>2</sup> at Huntington, L. I. showed the removal of *B. coli* from the effluent of a settling tank after 10 minutes reaction to be 99.9 per cent when the residual chlorine by the orthotolidin test was between 0.2 and 0.6 p.p.m. With the same residual, the corresponding removal of *B. coli* from the settleable solids in 15 minutes was more than 99.8 per cent. Other investigators have confirmed this work and there can be no doubt as to the disinfecting value of this halogen.

Alexander<sup>3</sup> demonstrated that the feces of persons suffering from pulmonary tuberculosis contained virulent tubercle bacilli. Although "the effect upon the tubercle bacillus of the conditions found in the sewers and in water courses is not well understood \* \* \*", the untreated sewage should certainly not be discharged where it will reach any source of supply".<sup>4</sup> Opinion as to the effectiveness of chlorine against tubercle bacilli is divided. There seems to be no question regarding the fact that high chlorine concentrations over long contact periods will kill them but as those two factors are not commonly present in the normal sewage treatment plant, it is wiser not to rely on the chlorine disinfectant at the sewage treatment plant but to stress the need for careful concurrent disinfection of a patient's stools and sputum.

### Trade Wastes

Sewages are frequently made difficult to treat by certain trade wastes. This is true when those from tanneries are added to the normal flow. In such a waste there is no reason why bacillus anthracis or the organism causing anthrax should not be present in some cases. Chlorine has been used in a few instances to kill this bacillus,<sup>5</sup> but as a standard practice it is not recommended. Precautions against the release of any anthrax-causing organisms should be rigidly enforced in the tannery.

Chlorine has other uses at many sewage treatment

<sup>2</sup> Efficiency of Chlorinating Sewage Tank Effluents. W. V. D. Tiedeman, Engineering News-Record 98; 944-948, 1927.

<sup>3</sup> An Investigation of the Acid Fast Bacteria Found in Human Feces with Special Reference to Their Presence in Cases of Tuberculosis. D. M. Alexander, Journal of Hygiene 10; 37, 1910.

<sup>4</sup> Report of Committee on Sewage Disposal, Public Health Engineering Section, American Public Health Association, Technical Reprint No. 464, Wallace & Tiernan Company, Newark, N. J.

<sup>5</sup> The Sterilization of Tannery Wastes. D. D. Jackson and A. M. Buswell, Journal of the American Leather Chemists Association 12, 56; 229-253, 1917.

<sup>6</sup> Wastes at Tannery Chlorinated to Guard Against Anthrax. W. Kilde, Engineering News-Record 87; 599, 1921.

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plants but its most important one insofar as reducing communicable diseases is concerned has been pointed out.

### Bathing Places

Swimming is gaining in popularity each year. This is a healthy gain and should be encouraged. Nevertheless, like many other worth while activities of humans, swimming presents its health problems. Swimming takes place in two separate and distinct water areas; first, the artificial pool subject to complete control and second, the natural body of water such as a lake, river or ocean subject to a lesser amount of control.

Swimming waters have been accused of being the vehicle for the transmission of a number of communicable diseases. Unfortunately, for those engaged in public health work, these accusations are supported only by opinion. No volume of epidemiological data to prove or disprove this contention has ever been collected. Therefore, our present day conclusions are based on opinion rather than fact. Such epidemiological work as has been done leads one to suspect that not so many cases of disease can be attributed to swimming waters as was once thought.

Irrespective of the merits of such an argument, it requires only plain common-sense to arrive at the conclusion that no one wants or should be allowed to swim in grossly contaminated water. Such a contention can be rebutted at once by a presentation of the simple rules of cleanliness.

Among the communicable diseases most commonly attributed to swimming are typhoid fever, paratyphoid fever, bacillary dysentery, syphilis, gonorrhea and ringworm. In 1921 the Committee on Bathing Places of the Public Health Engineering Section, American Public Health Association<sup>7</sup> collected much information from the medical profession on this subject. To assist that Committee in its consideration of the sanitation of bathing places, opinions were sought on the importance or non-importance of certain diseases. The following summary indicates how opinions were divided:

Disease	Number of definite opinions expressed	Per cent considering diseases important
Typhoid fever .....	277	55
Bacillary dysentery ...	240	47
Syphilis .....	278	42
Gonorrhea .....	293	53
Ringworm .....	256	59

That there is a possibility of transmitting these diseases through swimming, no one can gainsay. Therefore, some control of swimming water is desirable and necessary.

The artificial pool is far more likely to become a common bath-tub than a natural body of water. On the other hand, the water in the natural area is more apt to be contaminated originally than that in the artificial pool. Chlorine as a disinfecting agent enters the swimming pool sanitation picture in a very important way. A well conducted artificial pool utilizes filters in a recirculating system followed by chlorine as a killing agent. Chlorine is particularly useful in this phase of sanitation because it can be added in such concentration (still below a harmful point) as to carry over into the pool to perform its function of killing within the pool itself organisms washed off bodies or suits. Thus, it accomplishes a double task in that it disinfects the water after it leaves the filters and before it enters the pool, and, also, within the pool continues to disinfect until it has been entirely used up.

During the bathing season at some beaches—particularly those having a limited water supply—it is customary to disinfect the water periodically by adding chlorine to it in measured quantities delivered through apparatus carried on a boat. In the tidal basin in Potomac Park, Washington, D. C., this procedure was followed for a number of years with success.

Ringworm, more commonly called athletes foot, is con-

tracted unquestionably at bathing places. The best way to avoid it is to keep the feet covered. Many artificial pool operators now use strong chlorine solutions in their bath houses both to disinfect the feet of their patrons and for all scrubbing and washing, especially of floors. This plan is recommended as a preventive measure.

### Milk

"Milk is the one food which is most nearly complete, and for which as yet there has been found no substitute".<sup>8</sup> Because of progress in milk sanitation and of educational programs aimed at potential consumers, the use of milk is gradually increasing. However, even today we use only approximately 1 pint per capita daily as market milk. Knowing of the widespread use of and the increasing need for milk, it is depressing to consider the long list of communicable diseases which are milk borne. Consider this formidable array: diphtheria, bacillary dysentery, paratyphoid fever, scarlet fever, septic sore throat, pulmonary tuberculosis, typhoid fever and undulant fever. All of these have been transmitted to humans by infected milk supplies. Armstrong & Parran<sup>9</sup> reported 791 milk-borne outbreaks of all types occurring up to 1927. How many escaped detection one is unable to estimate.

From 1907 to 1927 these same authors<sup>9</sup> list 479 outbreaks of typhoid fever resulting in 14,968\* cases and 219\* deaths. Although typhoid fever predominates in the number of outbreaks of milk borne disease, the others above enumerated have all appeared in the same unwelcome fashion. Since 1914, the number of outbreaks has decreased due, in part at least, to an improvement in the sanitary quality of our milk supply. The final solution of this health problem as conceived by most sanitarians "lies in surrounding milk production with all practicable safeguards and then adding the additional and essential safeguard of adequate pasteurization in machines of proper and approved design properly operated and controlled".<sup>10</sup>

Pasteurization should not be considered as a panacea. Along with it, there must go the production of a good clean milk and such other activities as will insure its maintenance in that condition. In other words, pasteurization should not be accepted as an excuse for filthy production practices.

The Public Health Service Milk Code<sup>10</sup> recognizes the need for cleanliness at many points in the production routine. It also indicates the value of chlorine as a bactericide or disinfectant. Item 8r, on the construction of the milk house or room, specifies<sup>10</sup> that "there shall be provided a milk house or milk room for the handling and storage of milk and/or milk products and the washing, bactericidal treatment, and storage of milk apparatus and utensils \* \* \*". In the definition of bactericide, calcium hypochlorite, sodium hypochlorite and chloramine solutions are mentioned. In item 14r on the bactericidal treatment of utensils<sup>10</sup> the reason for such treatment is explained as follows: "More cleansing of containers and utensils does not insure that all disease organisms will have been removed or destroyed. Even very small numbers thus remaining may grow to dangerous proportions in the milk, since many kinds of disease bacteria grow rapidly in milk". Among the four satisfactory disinfecting methods given there appears exposure to a chlorine solution of a strength never less than 50 p.p.m. for at least two minutes.

The milker's hands are important when hand milking is being practiced and this Code provides that the "milker's hands shall be clean, rinsed with a bactericidal solution,

<sup>8</sup> The Care and Handling of Milk. Harold E. Ross. Orange Judd Publishing Company, New York.

<sup>9</sup> Further Studies on the Importance of Milk and Milk Products as a Factor in the Causation of Outbreaks of Disease in the United States. Charles Armstrong and Thomas Parran, Jr., Supplement No. 62 to the Public Health Reports, 1927.

<sup>10</sup> United States Public Health Service Milk Ordinance and Code, August 1934.

\* Figures incomplete.

<sup>7</sup> Report of the Committee on Bathing Places, Public Health Engineering Section, American Public Health Association. Swimming Pools and Other Public Bathing Places, Wallace & Tiernan Company, Newark, New Jersey.



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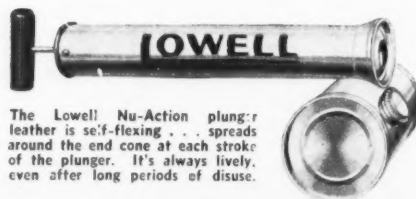
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and dried with a clean towel immediately before milking and following any interruption in the milking operation".<sup>10</sup> In other sections, provision is made for disinfecting apparatus other than utensils.

Disinfection is essential in the milk industry if we are to have safe market milk and dairy products. In this field chlorine-containing compounds have earned an enviable position.

### Shellfish

Previously I mentioned the pollution of sea water areas as it related to swimming. Pollution is inimical also to the purity of shellfish when it occurs in a growing ground. Because of the contamination found in some areas, particularly in Massachusetts, there has grown up a relatively new process involving the conditioning of moderately contaminated soft clams in water that has been disinfected with chlorine. Several plants of this type are being successfully operated in that state. It should be clearly understood, however, that clams from highly polluted areas are not permitted to be taken under any circumstances for market sale. In one shellfish plant in New York state, chlorine is used to disinfect the water in which oysters are held in storage. This plan is also under experiment at several places in New Jersey.

In shellfish shucking plants chlorine disinfectant is coming into use more and more to keep shucking equipment and benches free from viable organisms. In some plants it is now standard practice to scrub thoroughly benches, shucking pails, skimmers, blowers, measures and other utensils with brushes, a detergent and water and then disinfect them with a chlorine solution. During the shucking operations at a few plants, vats of highly chlorinated water are kept closely adjacent to the point at which the shucker passes his product to the skimmer man in order that he may dip his rinsed shucking pail into it for a short period of time.

Shellfish are known to be carriers of intestinal diseases like typhoid fever and the increasing use of chlorine in this industry represents only one more effort to make shellfish better and safer to eat.

### Utensils Used in Common

Articles and utensils used in common by more than one person either with or without undergoing some cleansing process between uses are receiving much more critical attention from health authorities today than in the past. Common towels have long been outlawed by good taste and regulations but no such action has been taken with respect to dishes, glassware and silverware frequently used for many individuals with only the crudest washing between uses.

Cumming<sup>11</sup> in a recent paper before the American Public Health Association in Milwaukee states that "it is well recognized that the infective organisms of the saliva-borne infections are transferred in the nasal or mouth excretions by way of the air-borne route and by indirect contact through food, hand-to-mouth or eating utensil transmission. Aside from the relative importance of these several avenues of infection distribution, it should be pointed out that the saliva-borne infections as a group \*\*\* are responsible either directly or indirectly for from 25 per cent to 45 per cent of our mortality". Mallmann<sup>12</sup> in discussing a sanitary survey of beverage establishments states that "it seems needless to point out the dangers of disease transmission by the use of improperly sterilized glasses \* \* \*." Here, then, is a broad field in which to work. It is interesting to dream of the reduction which could be made in the incidence of the common cold if all utensils used in eating and drinking were perfectly disinfected. What would be the economic saving to industry if all time lost due to common colds could be saved?

<sup>11</sup> To be published in the American Journal of Public Health.

<sup>12</sup> Sanitary Survey of Beverage Establishments with Reference to Sanitary Condition of Glassware. W. L. Mallmann and E. D. Devereux. American Journal of Public Health 25: 1007, 1935.

There is no doubt but that chlorine-containing compounds, when properly applied, can disinfect common utensils. Mallmann in the study heretofore cited showed this to be true, particularly of its inorganic compounds. At the same time he proved that unless certain precautions were observed in the application of the chlorine disinfectant to glasses in beverage establishments, a false security would result. The proper method of performing the operation is described briefly in regulations suggested by him, four of the six sections of which I quote herewith:

- (1) "Provide rinse to remove material from glass.
- (2) "Provide a tank of chlorine rinse water containing when freshly prepared 200 p.p.m. of chlorine and at no time less than 100 p.p.m. This rinse must be changed at least once a day and oftener if the volume of glassware disinfected reduces the chlorine below the minimum limit.
- (3) "Large glasses immersed in the chlorine rinse for at least 5 minutes, or immerse and then allow glasses to drain for 5 minutes inverted on a rack without rinsing off the chlorine water.
- (6) "All glass disinfectants must be of such a nature that the sanitary inspector can by means of a simple test determine the amount of said disinfectant in the rinse water".

Cumming in his study of dishwashing in restaurants seems to prefer mechanical washing. But in this connection he advises the use of an inorganic chlorine preparation in the rinse water when there is insufficient scalding water to perform the disinfection. The most satisfactory but still not altogether practical method for hand cleansing and disinfecting of eating utensils is believed by Cumming to be as follows: " \* \* \* first to rinse off the organic food particles in running hot water, second to wash in an alkali-cleanser \* \* \*, and third to immerse in a suitable chlorine solution. When all the dishes of the first set have been placed in the third compartment containing chlorine solution, they should remain there until the second set have reached the second compartment. Thus there is the necessary time exposure in the two disinfecting solutions of 8 to 12 minutes. The water should be maintained at hot hand washing temperature which is about 120° F."

As an effective adjunct to the machinery for controlling the spread of pneumonia, influenza, scarlet fever, measles and possibly to some extent tuberculosis, there can be no question as to the usefulness of proper washing and disinfecting of eating and drinking utensils.

A few more instances in which chlorine as a disinfectant plays a part in destroying communicable disease germs could be cited. However, having shown its relationship to sanitation in the water supply, sewage treatment, swimming pool, milk and shellfish production and eating utensil fields, it is believed that the importance of its role has been amply demonstrated.

For combating the caraway moth, a dust containing 1 part of derris root powder having a rotenone content of 3 per cent, and 3 parts of talc powder applied at the rate of 75 kg. per hectare in 2 applications gave distinctly better results than sodium silicofluoride or barium silicofluoride. Yields from treated plots were nearly 3 times greater than from the controls. W. Spoon. Ber. Afdeel. Handelsmuseum Ver. Koloniaal Inst. No. 94, 8 pp. (1935).

Monoethers of glycol are used as emulsifying agents for mixtures of soap and benzene, mineral oils, oil of turpentine, tar oils, pitch, etc. Georg Kropfhammer. German Patent No. 615,563.





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## The History and Development of

# SANITATION AND DISINFECTION

Dr. SAMUEL C. PRESCOTT\*

Dean of Science, Mass. Inst. of Technology

IN ANY general discussion of the subject of disinfectants and antiseptics certain questions naturally arise the answers to which are very helpful in clarifying the discussion. These questions are:

1. How shall we define a disinfectant and an antiseptic?
2. What do we want to know about them with reference to their destructive effect on living microbes?
3. How shall we determine what we want to know?
4. In what respect does a laboratory test in artificial culture media such as are commonly employed for bacterial growth meet our requirements in supplying accurate information?
5. Is a test *in vivo* possible, practical and accurate?

The answer to the first question has been supplied through the reports of the Committee on Nomenclature and especially by the carefully prepared paper of Dr. Patterson, presented in 1931, which leaves no doubt as to the view prevailing among bacteriologists who have given extended thought to the matter of definition.

The answer to the second question is reasonably obvious. We want to know to what extent a substance in solution or emulsion may be relied upon to protect either individuals or materials against the destructive or infective action of microbes either in general or under specialized conditions of application and in a particular environment.

It is less easy to supply a ready answer to the succeeding questions; how the desired information shall be obtained, and the real significance of the results obtained by the laboratory methods which have been made available constitutes the real problem which has persisted throughout the whole history of research in the methodology of disinfectant testing.

It is sometimes of value, in considering our present day problems in bacteriological research, to review the progress which has been made since the early days, in order to gain a clear conception of the advances that have been made and the trends, or lines along which this advancement has been made, for in this way it may be possible to foresee the next logical step in the field of investigation under consideration. Not infrequently some old observation, overlooked or forgotten, may supply a new starting point, open up a new avenue for fruitful work, or modify in some way the basis for drawing conclusions. I am not at all certain that it may be profitable to delve into the past history of disinfectant testing, or that any new suggestions for future work could come from such a backward view, but it is certainly of interest to those whose activity in this field goes back for two score years to note not only the great progress which has been made in convenience and accuracy of method of observation, but also to take account of the enormous range of products having antiseptic properties which modern organic chemistry has made available, and the vastly extended field of the uses to which they have been put.

It is almost exactly one hundred years ago that Theodor Schwann, fresh from his medical studies, and in his attempts to disprove the theory of spontaneous generation, noticed that certain substances prevented the development of germs in solutions which, without their presence, would

have undergone fermentation and rapid decomposition. This observation either was not accepted by the scientists of the time as of any significance or for some other reason received little attention. It was therefore not until well after the great work of Pasteur in establishing the germ theory of disease that antiseptics or disinfectants became of real significance. Our modern conception of the use of antiseptics dates from the work of Dr. Lister, later Lord Lister, who was apparently the first to make practical application of them in surgery. By some happy chance his first experiments were with phenol, or carbolic acid as it was then called, in concentrated form, and while it destroyed bacteria it was too powerful in its action on the tissues when used in this manner. However, modification and mixture with other substances was successful. Thus he began the first scientific study of antiseptics as applied to surgery, to be followed later by study of the use of mercurial and other metallic salts.

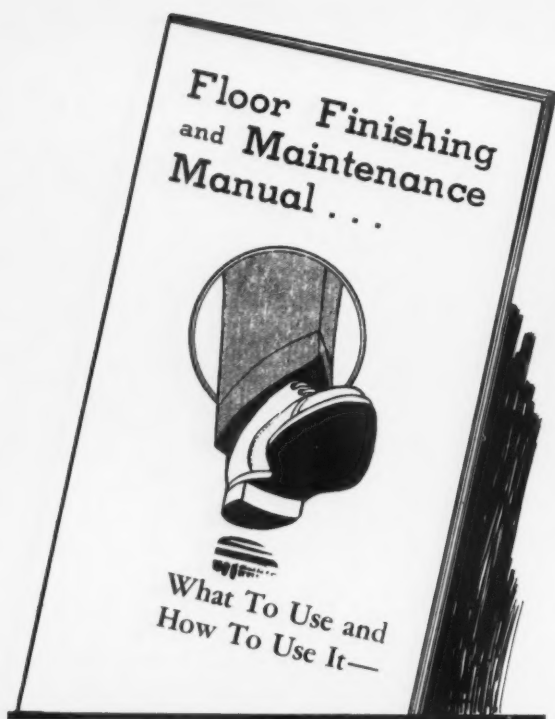
With the rapidly growing knowledge of bacteriology which characterized the first part of the ninth decade of the last century, and especially with the development by Koch of the gelatin plate and solid media, a method of approximate quantitative examination of germicidal and antiseptic substances became possible. Results were generally expressed in the rates of the dilution as 1 — 150, 1 — 2000, etc. Apparently many metallic salts and a few organic compounds were first examined. Koch himself studied the effect of antiseptic in restraining development of anthrax spores, dried on silk thread and then transferred to a solid culture medium, and noted the strength of solutions which would prevent germination.

At about the same time, 1880, a young American army surgeon, G. M. Sternberg, later Surgeon General of the United States Army, began extended work in this field, the results of which were published in 1888, and later in his *Textbook of Bacteriology* in 1892. His method was to add a definite quantity, usually 5 cc. of a "recent" culture of the test organisms to an equal quantity of a standard solution of the germicidal agent and to allow the mixture to stand for two hours, when a small quantity, a loopful or two of the mixture would be transferred into a suitable nutrient medium to test the question of disinfection. Various dilutions could be tried as 1 to 100, 1 to 200, 1 to 500, etc., and the result obtained could be recorded as a definite proportion since equal amounts of dilution and of culture were consistently employed.

Other experimenters employed different methods, as by introducing a loopful or two of culture into a solution containing a given proportion of disinfectant and after exposure for a given time (generally 30 minutes) making inoculation into nutrient media.

Dr. Sternberg pointed out in 1892 that these different methods could not give results which could be directly compared for to have corresponding results it was necessary to have identical conditions. It is interesting to note also that he experimented with a method of examination in which susceptible animals were inoculated with cultures which had been exposed to disinfectant action, but this method was not followed up because of what seemed to him obvious possibilities of modified reproductive capacity,

\* Address before 22nd annual meeting, National Association Insecticide and Disinfectant Manufacturers, New York, Dec., 1935.



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change in ability to produce disease, or to produce it in modified form, and the further possibility of establishing immunity by such modified cells so that the animal, if used for subsequent inoculations, might give misleading results. It is significant of his broad appreciation of the problem that he enumerated seven factors which must be kept clearly in mind if a trustworthy evaluation of disinfectants is to be secured. These were—

1. Recognized differences in vital resistance in different species of bacteria.
2. Necessity of accurate knowledge as to ability of the organism to form endospores.
3. Control of the number of bacteria to be destroyed.
4. The nature and quantity of associated material.
5. The time of contact or exposure.
6. The temperature at which exposure is made.
7. The degree of dilution of the disinfectant.

It will be noted that he had here foreseen all the factors that have been brought into our standard methods as at present employed with the exception of the discrimination between germicidal and inhibitory action. However, he clearly recognized the difference between these two phenomena and interest in this matter of germicidal action was so acute in the period previous to 1900 that almost every soluble salt or organic substance was "tested" for antiseptic properties. Modifications of the methods of Koch and of Sternberg were numerous, such as for example the drying of cultures on glass rods or the use of garnets as carriers for the bacteria and for spores, for much study was given to the dilutions of active substances which would prevent spores from germinating into active vegetative cells.

**T**HE next real step in the development of reliable quantitative and comparative germicidal efficiency, came through the work of Rideal and Walker, who seriously proposed a method of standardization in 1903, as appears in the *Journal of the Sanitary Institute* for that year. They recognized the advantage of phenol as a basis for comparisons, for reasons that are fairly obvious. By selecting one or a few non-sporing bacteria of reasonably constant qualities and by careful control of time, temperature and quantity or numbers of organisms to be used and by using a series of accurately prepared dilutions of the disinfectant they met practically all the requirements which had been foreseen and mentioned by Sternberg.

The formulation of the Rideal-Walker procedure opened the way for reasonably exact methods of comparing disinfectants, and served for many years as the most satisfactory means of securing such data. Meantime valuable work in this field was done by many other workers among whom may be mentioned Madsen and Nyhen, Miss Chick and Martin, Phelps, Wright, Anderson and McClintock, Pease, Reddish, Shippen, Moore and numerous others. The researches carried on have resulted in the Hygienic Laboratory method the agar cup plate methods, the filter paper methods and the modified R-W method which became the basis of the present F. D. A. method of determining the phenol coefficient,—a method which in general is highly satisfactory, in my opinion.

The observations of Miss Chick and of Phelps that the action of disinfectants in solution follows the law of monomolecular chemical reactions gave a mathematical basis for checking the procedure and thus establishing a proof of accuracy of the work during tests of this character.

Another significant observation during these years of investigation relates to the effect of the presence of organic matter of protein or albuminous nature in the culture medium used for the tests, and the reduction in efficiency of action when such substances are present. This was done in an attempt to stimulate the chemical composition of products of living bodies. If we visualize the process of disinfection as a reaction between the active substance and organic matter whether living or non-living, it is easy

to understand why this reduction in power is found. The disinfectant may be assumed to combine with or become absorbed on such material, and is thereby being changed in state and rendered inactive either temporarily or permanently. We can easily observe this by the addition of white of egg or peptone to solutions containing salts of metals, and it is a matter of common observation that in testing such metallic salts growth will frequently occur if the tubes containing the test material, the culture, and the culture medium, are kept for several days, although tests made from them after the usual time periods of observation may be apparently free from any growth.

**A** THIRD significant observation is the great difference in specific resistance which is shown by different types of organisms toward the same disinfectant. My attention was first directed to this in the examination of soaps either with or without the addition of disinfectant substances. Using *Staphylococcus aureus* and either *Eberthella typhi* or *Escherichia coli* as test organisms it was found that in the one case there was only moderate destructive effect while in the other the disinfectant action is quick and pronounced. This variation in specific action is well known, but perhaps has not been utilized to the fullest extent in the production of special types of antiseptics, or appreciated fully in our standardization procedures. It seems to be clearly evident that with the great range of organic substances now available and the skill that has been developed in compounding them, introducing new groupings, or metallic elements, or what not, we may eventually arrive at the desired goal of preparing antiseptic and germicidal substances which are entirely harmless to human protoplasm either external or internal, but having a violent and highly destructive action on Microbic invaders.

In the report of the Committee on Nomenclature presented at the 1934 meeting attention was directed to some of the special cases in which the existing methods may be of value. There was also reference to the interesting preliminary work on a new method of vital testing by superficial application on the skin of rabbits of materials such as ointments and salves which are designed for use on the body, and the simultaneous intradermal inoculation of *Staphylococcus aureus* as a test organism. Anyone who has seen the rather remarkable results achieved in this research work cannot fail to be impressed by the great difference between the test areas and the control area. Qualitatively it is apparently possible to demonstrate positive germ-restraining action with materials which it would be difficult to test by our regular traditional methods. Quantitatively there are many difficulties yet to be surmounted in this type of investigation, but extended research may overcome some or all of them. One is struck by the fact that in such a method there are two sets of living variables at the outset, the germs and the animal tissues. This adds to the complexity of the problem, for it is well recognized that most living material possesses inherent antiseptic or germicidal properties which may either be enhanced or made less effective by the introduction of a foreign stimulus. While it is not to be expected that such a vital method of examination can soon replace the present methods, or can even become so standardized as to be utilized by the ordinary laboratory technician, it offers a field for research to the specialist in problems of biochemistry, and has interesting connotations with immunity and allergy.

I have cited this because it is an example of a departure from a beaten track which may not only yield valuable results but may open up other new avenues of research.

It is by Research that we have come the long way from the work of Sternberg in 1880 to our present more accurate and understanding viewpoint. With a vastly greater background of knowledge in bacteriology, in biochemistry, in physical chemistry and in organic chemistry our progress in the years to come should be rapid and our achievements secure.



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gets you reorders because they are the most efficient and durable insecticide sprayers ever built. Supply your customers with the best.

### The New Tornado Model 36

**Automatic Time Switch—Volume Air Control  
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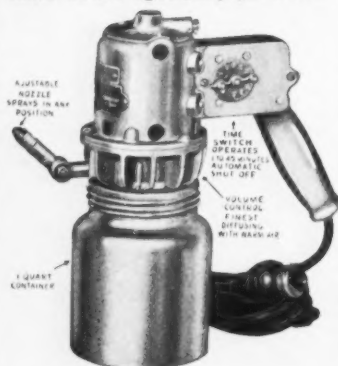
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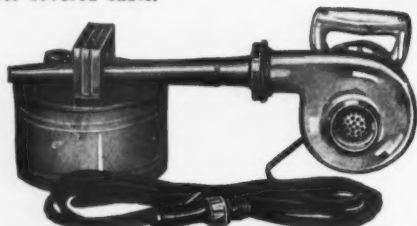
### MODEL 54—

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It features an automatic time switch set at any point from 1 to 30 minutes — sprays desired amount without any attention whatever — automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. MODEL 53 same as Model 54 except does not have automatic time switch.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8' to 10'. 1/2 H.P. G.E. Universal Motor, 1

pint glass jar. 20' of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18' to 20'. 1 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

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Swedeland, Pa.; Utica, N. Y.; Youngstown, O.



# Disinfectant Recommendations

## Report of Standardization Section, Disinfectant Committee\*

By B. G. PHILBRICK

Skinner & Sherman, Inc.

THE Committee on the Standardization of Disinfectants has cast the weight of its opinion with the Committee on Antiseptics in its endeavor to have the National Formulary's definition of an antiseptic and its method of testing antiseptics conform with those of the Food and Drug Administration. Although the results are not all that were wished, there will be substantial agreement between the two standards and it is not likely that the manufacturer will suffer from such differences as will remain.

The Committee has informally considered specifications for the hypochlorite type of disinfectant and the general type. The fact that the Association was asked to pass upon proposed specifications would indicate that basic specifications would be welcomed by purchasing agents and others. Further, it is believed that the use of such specifications would do away with many of the irritating and absurd situations that now arise in competitive bidding for the supplying of disinfectants. The Committee therefore would recommend that the Association consider the formulation of such specifications by a committee in which both the manufacturers and the technical men should be represented.

A matter closely related to specifications is the numerical expression of the phenol coefficient of disinfectants. While the F. D. A. Method, as outlined in Circular No. 198, states that the results of the determination shall be expressed to the nearest tenth, it is known to the bacteriologist making tests that such accuracy is not attainable. The Committee would, therefore, recommend that only phenol coefficients below 5 be expressed to the nearest tenth; that coefficients between 5 and 15 be expressed to the nearest half unit; and that coefficients from 15 upwards be expressed to the nearest whole unit. The proposed grouping is perhaps open to criticism as still implying an improbable accuracy, but it is a move in the right direction. The Committee would suggest that this recommendation be brought to the attention of the Food & Drug Administration in order that if approved, it or some other improvement on the present method of the expression of the results of tests may be incorporated in any revision of Circular No. 198.

The Committee at this time would present for the consideration of the members some data regarding the phenol coefficient which should be of interest. At some of our recent meetings the custom established by requirement that the recommended dilution of a disinfectant for general use be the equivalent of a 5% phenol solution, has been quite correctly spoken of as the "factor of safety," the function of which is to absorb or level off the peculiarities of the reactions of the disinfectant to the differences in conditions of use, such as time, temperature, organic matter, or even organisms other than the test organism, *E. typhi*. It should, therefore, be of interest to know the "load" that the factor of safety is carrying and how effectively it does the job. The Committee, therefore, presents some data on the effect of organic matter and of the presence of *Streptococcus hemolyticus*.

The effect of organic matter has been the object of study before, but in few cases with the present day type of disinfectants and with the present methods of test with a stabilized culture. The results given here were obtained in the laboratory of one of the members and

represent routine samples received from several sources throughout the country.

TABLE I

Samples	Phenol Coefficient		
	Without Organic Matter	With Organic Matter	% Loss in Coefficiency
Coal Tar Type			
1	23.0	16.0	30
2	23.0	15.0	35
3	21.0	16.5	21
*4	10.0	6.0	40
5	7.0	4.5	36
6	6.5	4.7	28
7	6.0	5.0	17
8	3.8	2.2	42
9	3.3	1.9	42
10	3.3	1.9	42
Pine Oil Type			
11	6.0	5.5	8
12	6.0	4.6	23
13	4.7	3.9	17
Cresol Type			
14	8.5	6.0	30
15	7.5	6.0	20

\*Contains a reinforcing agent.

The organic matter, 3% in amount, was a mixture of peptone 2 parts, gelatin 1 part, as recommended in Hygienic Laboratory Bulletin No. 82.

The number of comparisons made is small and the results in any particular case should not be interpreted too conclusively, but they certainly show that the effect of the presence of organic matter is a substantial part of the "load" carried by the "factor of safety."

TABLE II

TABLE I.			Difference in Coefficient Value as Obtained with Strep. Hemolyticus, Expressed as % Less Than E. Typhi Coefficient
Samples	Phenol Coefficient E. typhi	Strep. Hemolyticus	
Coal Tar Type			
3	21.0	13.5	36
18	21.0	18.5	12
16	19.0	13.0	32
*4	10.0	2.3	77
19	9.0	3.0	67
5	7.0	2.9	59
6	6.5	2.3	65
7	6.0	2.2	63
20	6.0	8.5	42
8	3.8	.5	87
9	3.3	.19	94
17	3.2	.15	95
21	2.5	1.0	60
Pine Oil Type			
11	6.0	—1	100
12	6.0	—1	100
13	4.7	—1	100
22	4.0	.8	80
Cresol Type			
14	8.5	5.5	35
15	7.5	5.5	27

\*Contains a reinforcing agent.

\*Report at 22nd annual meeting, Natl. Assn. Insecticide & Disinfectant Mfrs., New York, Dec., 1935.

*The First*

to refine and use a deodorized kerosene in an insecticide was  
R. B. KREMP

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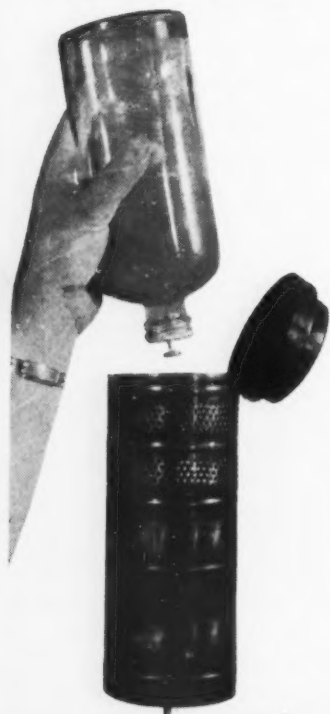
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It may be noted here that the Food & Drug Administration's regulation forbidding the recommendation of pine oil disinfectants for use on the human or animal body where suppurative organisms must be killed is supported by these results obtained with the use of a resistant strain of streptococcus.

The paper read at the June Meeting by one of the members of our Committee, Dr. Klarmann, made it evident that it would be well to collect some more data on the action of disinfectants against *Streptococcus hemolyticus*. Two members have, therefore, made some tests on routine samples, using the culture and technique described in that paper, and the results are presented with the hope that they will stimulate further work along this line.

Table III tabulates those disinfectants upon which both tests were made, showing the losses in efficiency.

TABLE III

Samples	Phenol Coefficient	% Loss in Efficiency Due to Organic Matter	Difference in Coefficient Value as Obtained with Srep. Hemolyticus, Expressed as % Less Than E. Typhi Coefficient
<b>Coal Tar Type</b>			
3 .....	21.0	21	36
4 .....	10.0	40	77
5 .....	7.0	36	59
6 .....	6.5	28	65
7 .....	6.0	17	63
8 .....	3.8	42	87
9 .....	3.3	42	94
<b>Pine Oil Type</b>			
11 .....	6.0	8	100
12 .....	6.0	23	100
13 .....	4.7	17	100
<b>Cresol Type</b>			
14 .....	8.5	30	35
15 .....	7.5	20	27

The Committee believes that a study of these data will support its belief that the manufacturer should not be content with a knowledge of the E. typhi phenol coefficient only, but that he should have a more comprehensive picture of his product.

## SPRAYERS

(From Page 96)

It is not sufficient to offer your customer "just a sprayer" for applying your product. There is a great variation in the volume of discharge in the different patterns produced by the various manufacturers. There is a very marked difference in the degree of break-up. And while, of course, you gentlemen are naturally desirous of making it possible for the consumer to use your product as liberally as possible, don't overlook the important fact that if in using the product liberally, that is accomplished by using a sprayer which gives off a large volume of discharge without the proper degree of atomization, the result is that a greater portion of that discharge will be precipitated upon the rugs, curtains, draperies, furniture, etc. and the customer will have only criticism and condemnation to offer. It is only that portion of the insecticide which is properly atomized in the atmosphere which has any beneficial effect. And while, of course, you want to aid the customer in using liberal quantities so as to insure effective results, that should be accomplished by selecting and offering a sprayer properly proportioned and designed to give off a substantial volume of discharge at each stroke of the pump without making the operation too strenuous for the housewife; yet it is highly important that every particle of the liquid discharged be reduced to the degree of atomization required for effective results. You must put the sprayer you intend to offer with your insecticide through laboratory tests as severe, proportionately, to determine its suitability for your purpose,

as those to which your insecticide is subjected. You cannot afford to leave the selection of the means of applying in the hands of the inexperienced layman. True, a good sprayer costs proportionately more to build than a poor one, just as a good insecticide costs more to make than one of a cheaper grade, but the few pennies more you pay for a good sprayer can do wonders for your insecticide.

May we depart slightly from the theme of this discussion to make a homely comparison such as was the subject of an editorial in SOAP in one of the recent issues. Those of you who are hunters will quickly appreciate the point. Those who are not, nevertheless cannot fail to understand the comparison. A hunter pays \$1.00 per box for ammunition (to the housewife your insecticide). He pays anywhere from \$15.00 to \$50.00, or higher, for a suitable gun in which to use that ammunition. He realizes that the dollar he paid for the ammunition will be completely wasted if the gun he has selected does not use that ammunition properly, in other words, if he does not give it a chance to perform as it should. He also realizes that a good gun can be used with many successive boxes of ammunition and with each box he will get the same high grade of efficient performance.

While the comparison may perhaps be far-fetched, the housewife is really confronted with a similar problem. When she buys a sprayer she buys it to use as a medium for applying the insecticide. She may not realize that the investment she made in the insecticide can be made to reach its maximum effectiveness with the proper sprayer, or can be completely wasted by a sprayer which was not intended for the job and does not function properly for her purpose. She should buy it with the thought in mind that she can use it with additional cans of insecticide, and with each can get the same efficient results. If she has the proper realization of the important part the sprayer plays in the successful application of your insecticide, she will willingly pay a higher price for a good sprayer, knowing that from her investment in a better sprayer she will get correspondingly better results from her investment in the insecticide.

Undoubtedly part of the blame for the radical shift from our old established principles lies with the sprayer manufacturers themselves for they too have been hungry for business and have been more inclined to sell the customer something that he wanted rather than the thing he should have. Be that as it may, we are again facing the joint problem of supplying the user of your products with a machine or device which will insure its proper application under conditions of comfort, convenience and efficiency. To that end sprayer manufacturers place themselves at your disposal with the request that you do not hesitate to consult them about your problems, or to draw upon them for information and experiences as to types of equipment which will best serve the problems with which you are confronted. The close bond of common interests between these two groups of manufacturers makes a close and friendly cooperation desirable for the best interests of all concerned.

## FLY SPRAYS FOR ANIMALS

(From Page 93)

fact that they are inert, or, in lieu of this, a statement of the name and percentage amount of each and every active ingredient and the total percentage of inert ingredients. If the preparation consists entirely of active ingredients, no statement regarding the ingredients is required. However, such claims as "Active Ingredients 100 per cent" or "Contains No Inert Ingredients" are unobjectionable, provided, of course, the product is composed entirely of active ingredients. The statement "100 per cent Active" is objectionable as it may be taken to imply that a spray is 100 per cent effective.

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## COAL TAR PRODUCTS

*For the  
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Western Sales Offices: Tacoma, Wash.; Works: Tacoma, Wash.



### New Sanitary Supply Firm

John R. Wright, for the past five years branch manager of the Hartford branch of the Sanitary Products Corp., a subsidiary of Crown Zellerbach Corp., has just taken over this branch and will operate it in the future as the Hartford Sanitary Products Co. Offices are located at 618 Capitol Ave., Hartford, Conn. The company offers a complete line of cleaning and sanitation supplies. They act as distributors for National Paper Products Co., paper towels and toilet tissues, and for Franklin Research Co., Philadelphia, manufacturers of floor products.

### New Insecticide Laws

Several bills have recently been introduced in the Massachusetts State Legislature regulating insecticide and disinfectant products. House Bill 1101 is modeled after the Federal Insecticide Act of 1910 and deals with labeling of insecticides and fungicides. House Bill 420 seeks to restrict sale of chemicals, poisons, etc., except by registered pharmacists. Under the present interpretation, disinfectants would be subject to this control. House Bill 757 deals with labeling requirements for alkalis, concentrations of ammonia in excess of 5 per cent, and products which contain as much as 10 per cent of oxalic acid. Full details on the new legislation may be obtained from John H. Wright, 122 E. 42nd St., New York, secretary of the National Association of Insecticide & Disinfectant Manufacturers.

### Exterminating Agreement

A committee of the National Association of Exterminators and Fumigators has recently been active in studying contract forms in use in the exterminating and fumigating industry, and has drawn up a sample form to stimulate discussion of possible adoption of a standard form. The committee consisting of members Buettner, Dold and Steckel, does not offer its sample contract form as a suggested model, but is interested in having comments or suggestions

that may be helpful in arriving at a form which could be generally accepted. Copies of the present draft may be obtained by addressing the National Association at 3019 Ft. Hamilton Parkway, Brooklyn.

### Lower Insurance Rates

The National Association of Exterminators and Fumigators reports that through its recent work it has been instrumental in securing reductions in liability insurance rates in this field which went into effect last month. The base rate of 50c per \$100 of gross receipts for concerns in the \$5,000-\$10,000 class is still unchanged in the new schedule, but moderate reductions have been granted in the higher coverage. The following rates of increase over the base rates are given on the old and new schedules for concerns in the upper brackets.

	Old	New
\$ 10,000/ 20,000 Limits	20%	15%
25,000/ 50,000 Limits	30%	27%
50,000/100,000 Limits	45%	32%
100,000/300,000 Limits	57%	37%

The base rates and the minimum premium of \$50 for one year are still being protested, and the association is seeking the cooperation of all concerns in the field in collecting further

data for submission to the National Bureau of Casualty & Surety Underwriters.

### Insurance Conference

On January 23, officers of the Professional Exterminators Association, attended a luncheon and conference at the Hotel Astor, New York, for the purpose of seeking an adjustment in public liability rates. Presentation of applications for rate adjustments will be made through the Risk Research Institute. A special form of public liability policy, designed especially for extermination and fumigation work is being drafted. This proposed policy embodies safety requirements suggested by underwriters as a possible means of obtaining reduced rates.

### Benner Holds Sales Meeting

The annual sales convention of Benner Chemical Co., held at the Chicago offices at 20 N. Wacker Drive, was presided over by S. R. Benner, president, and E. M. Stocker, secretary. Since last year's meeting the following new sales representatives have been added: R. L. Brown, J. Fellers, L. R. Fink, F. W. Reif, and C. H. Stoddard.

A new blower package for roach powder which has just been put on the market by the Ransford Insecticide Company of Worcester, Mass. A folding cardboard carton in light blue and black which acts as a bellows. Thus far marketed only locally on an experimental scale by Ransford.



## ANNOUNCEMENT

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COAL TAR DISINFECTANTS—Coefficients  
2 to 20 plus F.D.A. Method

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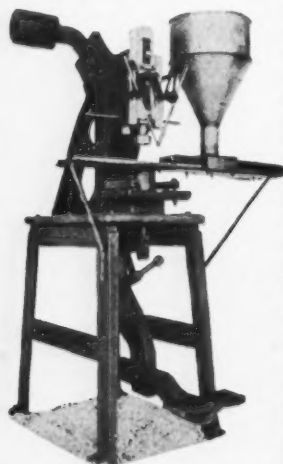
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of above specialty  
bulk products.

### Chicago Sanitary Supplies

Every member company was represented at Jan. 14 meeting of the Affiliated Sanitary Supply Distributors, Chicago. C. W. Chidsey of the U. S. Envelope Company was the speaker for the evening. For the month of December, 1935, the average gain in sales by the members as compared to December 1934 amounted to 16.8%, while the average gain for the entire year was 18.4%. The February meeting is being held on the 11th.

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### Fluoride Poison in N. Y.

According to a statement from George W. Mather, secretary of the New York State Board of Pharmacy, Albany, sodium fluoride is now held to be a poison in New York State, and products containing it must be labelled "poison" as required by the law. Heretofore, fluoride was held to be only "toxic," or mildly poisonous. New York City will have to comply with this State ruling in spite of local ordinances which do not classify fluoride as poison if it is properly colored Nile blue. Enforcement in New York City is in charge of Dr. Edward Bocker of the Department of Health.

---

### Honor H. D. Hudson

H. D. Hudson, founder of H. D. Hudson Manufacturing Co., Chicago, sprayer manufacturer, was honored at a telephonic birthday party held January 25. With loud speakers in various company offices all over the country, birthday greetings were sent by various branch managers to Mr. Hudson.

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### Dr. H. S. Cumming Retires

Dr. Hugh S. Cumming, surgeon general of the U. S. Public Health Service, retired from the service February 1 because of poor health. Dr. Cumming had served since 1920 in this position, first having been appointed by President Wilson after 26 years in the service. President Roosevelt is reporting to be considering as his successor Thomas H. Parran, Jr., New York State Health Commissioner.

### Neway Now Marvel Appliance

Neway Exterminators Products Corp., formerly of 918 S. Crawford Ave., Chicago, has been reorganized and is now operating under the name of the Marvel Appliance Co. at 6 No. Clark St., Chicago. A Neway is head of the firm. He states that he will announce a new idea in an insecticide diffusing machine within the next thirty days.



The newest thing in drip machines, exactly timed to drip one quart in thirty days, patented and manufactured by Garnet Chemical Corp., Allentown, Pa. In nickel, oxidized, white, or chromium finish. A low priced machine of one quart capacity with glass container and automatic wick, suitable for use with either petroleum or water base materials.

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### New Trojan Catalog

Trojan Products & Mfg. Co., Chicago, have just published their 1936 catalog. The catalog, which is well illustrated, lists and describes over 300 items of interest to the sanitary supply trade.

### Moth-Proofing at the Mill

In a recent bulletin mailed to the trade, Flori Mothproofing Method, Inc., 254 S. Broad St., Philadelphia, maker of "Flori" insect killer, stresses the importance of securing permanent moth protection through impregnation of textile fibers with moth-proofing agents at the mill. It is pointed out that fabrics properly treated will resist moths and carpet beetles even after subjection to light until all color has faded; and even after as many as thirty-three dry cleanings. They point out also that such treatment involves no less in tensile strength or resistance to abrasion.

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### Study N. Y. Health Code

A meeting was held last month at the offices of the New York Board of Health, attended by representatives of approximately 150 firms in the exterminating field. Discussion was mainly on the manner in which toxic substances can be used, with emphasis on sodium fluoride. Following the meeting, a committee was appointed to make suggestions with regard to amendment of section 104 of the New York Health Code. William O. Buettner, Oscar G. Buettner & Son, was appointed to act as chairman of the committee and the following will serve with him: N. L. Fremed, Sameth Exterminating Co.; Dr. Max Reiman, Oriental Exterminating Co.; T. Schmerl, Disinfecting and Exterminating Co.; K. Tompkins, Bliss Exterminator Co.; S. Guggenheim, M. Oachs, Ozane Co.; Frank Rauch, Empire Exterminating Co., and W. J. Shrimplin, Rose Rat Exterminator Co.

### MOTH SPRAYS

Is there a market for special moth sprays? How do they fit in with other moth preparations? What characteristics should they have? How sold and what directions for use? A discussion on moth sprays,—a staff investigation,—will be published in the March issue of SOAP.

# SOAP PLANT FOR SALE!



This entire plant, including factory equipment and real estate, which until recently was the home of the Holman Soap Company, Chicago, has just been purchased by Newman Tallow and Soap Machinery Company and is offered for immediate sale. The plant is fully equipped to manufacture economically any kind of soap (laundry, toilet, chips, powders, etc.) and is ready for operation as a going concern. Centrally located, with ample manufacturing and storage facilities and completely equipped with modern soap machinery in first class condition, this plant is an unusually fine "buy" for anyone interested in the manufacture of soap.

Included in the equipment is a Pack-O-Matic Soap Chip Filler and a Proctor & Schwartz Single Roll Dryer—both in unusually good condition. Also a Package Machinery Company High Speed Bar Soap Wrapper which is as good as new. All other equipment, crutchers, frames, etc., are in uniformly high-grade condition. Write us for more detailed information regarding the plant.

## USED SPECIALS IN STOCK

*For the Soap, Chemical, Cosmetic and Allied Trades*

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.

Jones Automatic Soap Presses.

Ralston Automatic Soap Presses.

Scouring Soap Presses. Empire State, Dopp & Crosby Foot Presses.

2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slabbers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machines for Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps

Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

Day Grinding and Sifting Machinery.

Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap Chip Dryers complete.

Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H.A. Automatic Cutting Tables.

Soap Dies for Foot and Automatic Presses.

Broughton Soap Powder Mixers.

Williams Crusher and Pulverizer.

National Filling and Weighing Machines

*Send us a list of your surplus equipment. We buy separate units or complete plants.*

**NEWMAN TALLOW & SOAP MACHINERY CO.**

1051 WEST 35th STREET

CHICAGO, ILLINOIS

*Our forty years soap experience can help solve your problems*



## CLASSIFIED ADVERTISING

**Classified Advertising**—All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

## Positions Wanted

**Insecticide Sales**—Man with 18 years sales and promotion experience with three manufacturers of nationally advertised household insecticides desires new connection as sales manager or in promotion work. Knows the markets and merchandising of small package and bulk insecticides. College man. Best of references. Address Box No. 693 care *Soap*.

**Export Manager**—6 years experience building foreign sales volume of complete line of soaps. Desires connection with manufacturer in same line. Will consider any location on salary or commission basis, or both. Address Box No. 694, care *Soap*.

**Sales Executive**—Open to an offer. Now Manager Sales—Large manufacturer, industrial and institutional maintenance chemicals. Trebled sales 1935 over '34. Address Box No. 695, care *Soap*.

**Position Wanted** by capable man, 37, married, well-educated, personable. Prefer sales work for manufacturer or broker. Have handled sales promotion, advertising, purchasing, credits. Will locate any place. Address Box No. 696, care *Soap*.

**Soap Plant Superintendent**—Man with fourteen years experience with two leading soap manufacturers, experienced in all types of standard soaps, but specializing in toilet soaps, desires new connection with progressive firm. Can assume complete charge plant. Good record. Address Box 709 care *Soap*.

**Soapmaker and Chemist**—with long experience making all kinds of soaps, seeks permanent connection. Address Box No. 701, care *Soap*.

**Position Wanted, Soapmaker**, perfumer, chemist, makes laundry, toilet, soda or potash, soaps (all processes) handkerchief perfumes, toilet preparations; recover glycerine—install—remodel plants; lifelong experience. Correspondence English or Spanish. Address Box 710, care *Soap*.

## NEW AND REBUILT SOAP MACHINERY

### SPECIAL

1—Jones Automatic Vertical Soap Press

- 1—Proctor Soap Chip Dryer
- 4—No. 1, 2 and 3 Mead Mills
- 4—3, 4 and 5 Roll Steel Mills
- 1—10" Houchin-Aiken Plodder
- 1—Automatic Power Cutting Table
- 1—Broughton Mixer, jacketed
- 2—No. 10A Blanchard Mills
- 3—Soap Foot Presses
- 6—Filter Presses, sizes 6" to 36"
- 6—Granite Stone Mills, 2, 3, and 4 rolls
- 2—Glycerine Evaporators
- 50—1200 lb. Soap Frames
- 4—Jacketed Vertical Crutchers
- 2—1,500 lb. Horizontal Crutchers
- 2—Hand Power Slabbers
- 2—Hand Power Cutting Tables
- 2—Houchin Chippers, belt driven

600 and 1,200 lb. Frames, Kettles, Pumps, Tanks, Filter Presses, Wrapping Machines, Tube Fillers, Closers, Crimpers, Dry Powder Mixers, Pulverizers, Grinders, Amalgamators, Mixers, etc.

**Send for Complete List (Bulletin No. 15)**

WE BUY AND SELL FROM SINGLE ITEMS TO COMPLETE PLANTS.

## STEIN-BRILL CORPORATION

183 VARICK STREET

Phone:  
Walker 8-6892-3-4

NEW YORK, N. Y.

Cable Address:  
"BRISTEN"

## REBUILT SOAP MACHINERY

### SPECIALS

Machinery from former plants of National Soap Powder Co., A. W. Barnes Soap Co., and Pennsylvania Soap Co.

- 1—Allbright-Nell 4'x8' Cooling Roll, with top feeder roll, scraping knife.
- 4—5000 lb., 1500 lb., 1000 lb., Jacketed Vertical Crutchers.
- 2—1500 lb. Horizontal Crutchers.
- 1—Steel Soap Kettle, 5' dia. x 10' high.
- 1—Houchin 400 lb. Amalgamator.
- 4—Houchin Soap Plodders, 8" and 10".
- 2—Ruchmann 4-roll inclined Granite Mills, 18"x24", motor driven.
- 1—Broughton 1200 lb. Soap Powder Mixer.
- 2—Tabor Soap Pumps.
- 4—Houchin 4 and 6-knife Chippers, 20".
- 1—Houchin Soap Foot Press.
- 1—Houchin 1500 lb. Power Slabber.
- 1—Houchin Hand Slabber.
- 2—Houchin 2-way Soap Cutting Tables.
- 1—Jones "A" Automatic Soap Press.

- 1—Proctor and Schwartz Soap Chip Dryer, steel frame, 7-section, 1—cooling section, complete with 5-roll P. & S. Mill. Located on Pacific Coast.

MISCELLANEOUS—Soap Frames, Kettles, Mixers, Pony Mixers, Powder Fillers, Labelers, Wrappers, Tanks, Pumps, Boilers, etc.

Send for Latest Bulletin.

## CONSOLIDATED PRODUCTS CO., INC.

15-21 Park Row

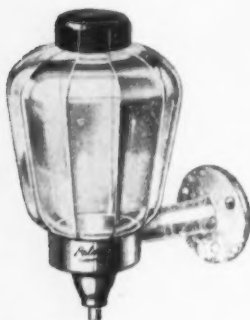
BArcley 7-0600

New York, N. Y.

We buy your idle Machinery—Send us a list.

## PALMER SOAP DISPENSERS

The Palmer SUPER SERVER Dispenser (right) is priced very low, but has no equal in value. Metal parts are non-corrosive, stainless, chrome alloy. One piece bracket in beautiful satin chrome-like finish. Valve parts easily removed for cleaning or replacement. Crystal glass decagon bowl (opal glass on special order)—decagon black enameled cap. Large 1-inch opening makes filling easy—no need for removing or inverting bowl. The lowest priced push-in dispenser—yet neat, compact, durable.



The Palmer "D.C." Dispenser (dependable construction), shown at the left, is the lowest priced dispenser offered. Has simple, positive spring-controlled valve. All metal parts chrome nickel plated. Fill through large 1-inch top opening without removing or inverting bowl. Crystal glass decagon bowl (opal glass on special order)—with decagon black enameled cap.

**Palmer**  
**PRODUCTS INC.**  
WAUKESHA, WIS.  
Adjacent to Milwaukee

Write for new catalog on complete Palmer line of soap dispensers, janitor and sanitary supplies, maintenance materials and equipment.

## This Versatile Press

is good for a variety of uses besides making para blocks. Soap, for instance, can be pressed with suitable dies to produce as fine looking cakes as come from the most expensive automatic press. Or, for instance, if you bottle some of your liquid mixtures, the Huber hand lever press can be equipped with little expense to cap the bottles. For purposes such as this it has a considerable advantage over the foot press, as the pressure of each stroke is subject to sensitive hand control.



Anything that requires compression, within the limitations of manual power, can be handled in these presses. Truly they are "all-purpose" machines, invaluable to the plant with diversified output and multiplied production problems.

Available in style illustrated or in bench type.

**HUBER MACHINE CO.**

265 46th St., Brooklyn, N. Y.

**F. & S.**  
Quality Colors  
for

**TOILET SOAPS**  
**LIQUID SOAPS**

**TOILET PREPARATIONS**

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

**FEZANDIE & SPERRLE, Inc.**

205 FULTON STREET  
NEW YORK, N. Y.

Import—Manufacture—Export



**Brighter**

YES . . . but contrariwise, we'd like to hide its brilliance behind a bush! So much wax is sold on the strength of the self-polishing feature that we want to disassociate Rubber Gloss from this class forever. We exact seven major requirements from a floor wax before we say it's good. Gloss is one of them, but only one—and about fifth in importance. They are

**TOUGHNESS OF FILM**  
**WATER-RESISTANCE**  
**BALANCE OF FILM**  
**NON-SLIP**  
**GLOSS**  
**LACK OF SURFACE TENSION**  
**APPROVALS**

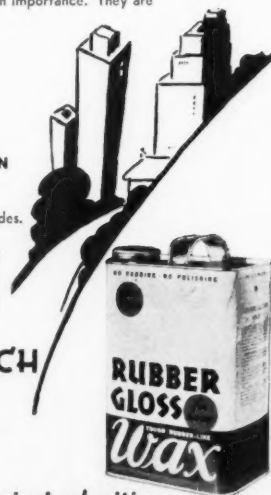
Rubber Gloss gives you all these and more besides.

Buy it for its deeper, sparkling lustre if you will, but don't let this one feature overshadow the other top-notch qualities!

**FRANKLIN RESEARCH**  
**COMPANY**

5134 Lancaster Avenue  
PHILADELPHIA, PA.

Distributors in principal cities



**Entomologist**, recent Ph.D., specialist in insecticides for five years, well trained in biology and organic chemistry, desires research position. Offers ideas as well as services. Address Box No. 707, care *Soap*.

**Expert Soap Chemist and Engineer**, Massachusetts Institute of Technology graduate desires position as superintendent, assistant superintendent, chief chemist or research chemist. Thirteen years production, analysis and research in laundry, textile, toilet and liquid soaps, rendering, oil refining, glycerin recovery. Address Box No. 708, care *Soap*.

**Soapmaker and Superintendent**—Have had long experience in making all kinds of soap. Analyze any soap or soap material. Address Box No. 705, care *Soap*.

**Soapmaker**, reliable, good worker, own analysis, experience on all soda and potash soaps; liquid, dry cleaning soaps, disinfectants, insecticides, waxes, etc., wishes permanent connection with progressive concern. Address Box No. 698, care *Soap*.

### Positions Open

**Salesman**—Wanted by prominent manufacturer of aromatic chemicals and perfuming materials with some experience in selling manufacturers of soaps, insecticides, cosmetics, shampoos, etc. Young man between 25 and 30 preferred. Give full details in letter. Box No. 692, care *Soap*.

**Salesman** for line of soaps, disinfectants, insecticides. Experienced, with following among hotels, institutions. Good opportunity. Drawing against commission. Address Box No. 699, care *Soap*.

**Salesman** knowledge soap and edible oils, acquainted with buyers. State experience, salary, full details. Address Box No. 700, care *Soap*.

**A Prominent Manufacturer** of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 703, care *Soap*.

**Salesman**, fine line oils, greases, soaps to factories on commission as sideline. Old reliable manufacturer. Baum's Castorine Co., Rome, N. Y.

## WHITE COCONUT OIL AND PALM OIL FATTY ACIDS

ALSO COMPLETE  
LINE OF VEGETABLE  
AND ANIMAL OIL  
FATTY ACIDS

**WECOLINE  
PRODUCTS, Inc.**

15 EAST 26th ST. NEW YORK



We manufacture a complete line of high quality waxes for the jobbing trade, including no-rubbing liquid wax, regular type liquid wax, powdered wax, paste wax and also furniture polish. These products can be supplied in bulk, packaged under the Windsor label or with your own label which we supply.

**WINDSOR  
WAX COMPANY**  
53 PARK PL. New York NY

factory  
611 Newark St. Hoboken N.J.

*Manufacturers of*  
**WAX PRODUCTS EXCLUSIVELY**

# SOAP DIES and STAMPS

—for—  
TOILET SOAPS  
LAUNDRY SOAPS  
BATH TABLETS  
STAMPING

*For Foot and Power Presses*

Manufacture Backed by 35 Years' Experience

**ANTHONY J. FRIES**

717 Sycamore Street

Cincinnati, O., U. S. A.

## Olive Oil Olive Oil Foots

Deliveries spot and future in barrels, tank cars, drums or tank wagons.

## ESSENTIAL OILS

Lemon—Bergamot—Orange

**LEGHORN TRADING CO.  
INC.**

155 East 44th St., New York

Phone: V. A. Vanderbilt 3—6361-23

ITALY—SPAIN—GREECE—TURKEY—AFRICA



FUMERAL PRESSURE SYSTEM  
CONNECTS TO STEAM OR  
AIR PRESSURE LINE



Patented  
Sept. 18, 1934

Additional  
Patents Pending

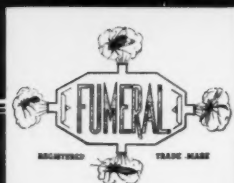
## FUMERAL PRESSURE SYSTEM

*Does a Thorough Job.....* INEXPENSIVE — EFFICIENT — ECONOMICAL

- The effectiveness of any good spray solution depends upon the efficiency of your spray equipment. Wet sprays are not efficient. It takes a minimum of 30 lbs. (steam or air pressure) to diffuse spray solutions. THE FUMERAL INSTANT DIFFUSER instantly charges the entire room. No insects, flies, cockroaches, ants, moths or germs have a chance to escape. • Connects to any steam or air line. Turn on the valve and in 4 minutes the operation is completed. • No electricity to fuss with. No moving parts. Nothing to get out of order. FUMERALS stay sold. Simple — Inexpensive — More Efficient and Most Economical. Anyone can install it. Various brands of insecticides, germicides, bactericides, deodorants, disinfectants and perfumes all work well in the FUMERAL INSTANT DIFFUSER.

**FUMERAL COMPANY, RACINE, WIS.**

Manufacturers of Stationary and Portable Diffusers  
Sanitary Consulting Engineers





**Distributors** — We manufacture Metal, Silver, Stove Polishes, and Window Glass Cleaner. Also complete line of Bar Room Cleaning Materials. We specialize in bulk jobbing trade. Send for prices. Sales representatives wanted. The Slick-Shine Co., Inc., Newark, N. J.

### Miscellaneous

**Volcanic Ash**—Mined and refined by Mid-Co Products Co., 238 Railway Exchange Building, Kansas City, Mo., operators of plants in Oklahoma and Kansas. Samples and prices on carlots on request.

**Floor Brushes**—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

**Wanted**—We are in the market for an automatic device for feeding detergent powder into dishwashing machines. Please send details or name of manufacturer to Box 671, care *Soap*.

**THE PATENTED**



**"LIGHTNIN"**

**MIXING ACTION**

The wide use of "Lightnin" Mixers in the soap industry is due to two things. 1. The efficiency of the patented double mixing action. 2. The sturdy dependability of these rugged mixers.

A rapid bottom-to-top turnover plus a slow rotation quick'y and thoroughly mixes liquid soaps, disinfectants, oils, etc. Can be attached to any size or shape tank, open or closed. As mixing specialists, consult us about your mixing problems. No charge, of course. Write.



"Lightnin" Geared Drive Heavy Duty Portable Mixers. 1/4 to 10 H. P.; 100 R.P.M. to 800 R.P.M.



"Lightnin" Angular Off-Center Mixers for fixed installations on large size tanks. Sizes 2 to 50 H.P. and larger.

**MIXING EQUIPMENT CO.**  
INCORPORATED  
1050 GARSON AVE., ROCHESTER, N. Y.

We announce development of new type soap colors

## PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

*It will pay you to send  
for testing samples.*

### PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters  
799 Greenwich St. New York City  
Cable Address: "Pylamco"

*High cost of Lavender  
and the Fine Quality of  
our product has won  
many fine friends for*

**Lavender L  
Parento**  
at \$4 per lb.

*Write for your  
sample to - day*

**Compagnie Parento, Inc.**  
CROTON-ON-HUDSON, N. Y.

NEW YORK CITY DETROIT CHICAGO  
LOS ANGELES SAN FRANCISCO  
SEATTLE PORTLAND, ORE. TORONTO

# SOAP DIES and STAMPS

—for—  
TOILET SOAPS  
LAUNDRY SOAPS  
BATH TABLETS  
STAMPING

*For Foot and Power Presses*

Manufacture Backed by 35 Years' Experience

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## ESSENTIAL OILS

Lemon—Bergamot—Orange

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INC.

155 East 44th St., New York

Phone: V. A. 3-6361-2-3

ITALY—SPAIN—GREECE—TURKEY—AFRICA



**INDEPENDENT**  
MANUFACTURING CO.  
Bridesburg P.O.  
Philadelphia, Pa.

FUMERAL PRESSURE SYSTEM  
CONNECTS TO STEAM OR  
AIR PRESSURE LINE



Patented  
Sept. 18, 1934

Additional  
Patents Pending

## FUMERAL PRESSURE SYSTEM

*Does a Thorough Job.....* INEXPENSIVE — EFFICIENT — ECONOMICAL

● The effectiveness of any good spray solution depends upon the efficiency of your spray equipment. Wet sprays are not efficient. It takes a minimum of 30 lbs. (steam or air pressure) to diffuse spray solutions. THE FUMERAL INSTANT DIFFUSER instantly charges the entire room. No insects, flies, cockroaches, ants, moths or germs have a chance to escape. ● Connects to any steam or air line. Turn on the valve and in 4 minutes the operation is completed. No electricity to fuss with. No moving parts. Nothing to get out of order. FUMERALS stay sold. Simple—Inexpensive—More Efficient and Most Economical. Anyone can install it. Various brands of insecticides, germicides, bactericides, deodorants, disinfectants and perfumes all work well in the FUMERAL INSTANT DIFFUSER.

**FUMERAL COMPANY, RACINE, WIS.**

Manufacturers of Stationary and Portable Diffusers  
Sanitary Consulting Engineers



**Distributors**—We manufacture Metal, Silver, Stove Polishes, and Window Glass Cleaner. Also complete line of Bar Room Cleaning Materials. We specialize in bulk jobbing trade. Send for prices. Sales representatives wanted. The Slick-Shine Co., Inc., Newark, N. J.

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True Blue	Violet

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for testing samples.*

### PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters  
799 Greenwich St. New York City  
Cable Address: "Pylamco"

THE PATENTED

"LIGHTNIN"



"Lightnin" Geared Drive Heavy Duty Portable Mixers. 1/4 to 10 H. P.: 100 R.P.M. to 800 R.P.M.



"Lightnin" Angular Off-Center Mixers for fixed installations on large size tanks. Sizes 2 to 50 H.P. and larger.

### MIXING ACTION

The wide use of "Lightnin" Mixers in the soap industry is due to two things. 1. The efficiency of the patented double mixing action. 2. The sturdy dependability of these rugged mixers.

A rapid bottom-to-top turnover plus a slow rotation quickly and thoroughly mixes liquid soaps, disinfectants, oils, etc. Can be attached to any size or shape tank, open or closed. As mixing specialists, consult us about your mixing problems. No charge, of course. Write.

**MIXING EQUIPMENT CO.**  
INCORPORATED  
1050 GARSON AVE., ROCHESTER, N. Y.

*High cost of Lavender  
and the Fine Quality of  
our product has won  
many fine friends for*

**Lavender L  
Parento**  
at \$4 per lb.

*Write for your  
sample to - day*

**Compagnie Parento, Inc.**  
CROTON-ON-HUDSON, N. Y.

NEW YORK CITY DETROIT CHICAGO  
LOS ANGELES SAN FRANCISCO  
SEATTLE PORTLAND, ORE. TORONTO

Where to buy

## RAW MATERIALS AND EQUIPMENT

*for the Manufacture of Soaps and Sanitary Products*

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 132, for page numbers, "Say you saw it in SOAP."

### ALKALIES

American Cyanamid & Chemicals Corp.  
Columbia Alkali Co.  
T. G. Cooper & Co.  
Dow Chemical Co.  
Eastern Industries  
Hooker Electrochemical Co.  
Innis, Speiden & Co.  
Niagara Alkali Co.  
Solvay Sales Corp.  
Jos. Turner & Co.  
Warner Chemical Co.  
Welch, Holme & Clark Co.

### AROMATIC CHEMICALS

American-British Chemical Supplies  
Aromatic Products, Inc.  
Compagnie Parento  
Dodge & Olcott Co.  
Dow Chemical Co.  
P. R. Dreyer, Inc.  
E. I. du Pont de Nemours & Co.  
Felton Chemical Co.  
Charles Fischbeck & Co.  
Fritzsche Brothers, Inc.  
Givaudan-Delawanna, Inc.  
Magnus, Mabee & Reynard, Inc.  
Monsanto Chemical Co.  
Norda Essential Oil & Chemical Co.  
Orbis Products Corp.  
Schimmel & Co.  
Solvay Sales Corp.  
A. M. Todd Co.  
Ungerer & Co.  
Van Ameringen-Haebler, Inc.

### BULK AND PRIVATE BRAND PRODUCTS

An-Fo Manufacturing Co.  
Baird & McGuire, Inc.  
Chemical Supply Co.  
Clifton Chemical Co.  
Davies-Young Soap Co.  
Eagle Soap Corp.  
Federal Varnish Co.  
Franklin Research Co.  
Fuld Bros.  
Goulard & Olena  
Harley Soap Co.  
Hull Co.  
Koppers Products Co.  
Kranich Soap Co.  
Palmer Products  
Philadelphia Quartz Co.  
John Powell & Co.  
Geo. A. Schmidt & Co.  
Uncle Sam Chemical Co.  
T. F. Washburn Co.  
White Tar Co.  
Windsor Wax Co.

### CHEMICALS

American-British Chemical Supplies  
American Cyanamid & Chemicals Corp.  
Columbia Alkali Co.  
T. G. Cooper & Co.  
Dow Chemical Co.  
E. I. du Pont de Nemours & Co.  
Eastern Industries

General Chemical Co.  
Grasselli Chemical Co.  
Hooker Electrochemical Co.  
Industrial Chemical Sales Co.  
Innis, Speiden & Co.  
Mechling Bros. Chemical Co.  
Monsanto Chemical Co.  
Niagara Alkali Co.  
Philadelphia Quartz Co.  
Solvay Sales Corp.  
Standard Silicate Co.  
Jos. Turner & Co.  
Victor Chemical Works  
Warner Chemical Co.  
Welch, Holme & Clark Co.

### COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies  
Baird & McGuire, Inc.  
Barrett Co.  
T. G. Cooper & Co.  
Innis, Speiden & Co.  
Koppers Products Co.  
Monsanto Chemical Co.  
Reilly Tar & Chemical Co.  
White Tar Co.

### COLORS

Fezandie & Sperrle  
Pylam Products Co.

### CONTAINERS and CLOSURES

American Can Co. (Tin Cans, Steel Pails)  
Anchor Cap & Closure Corp. (Closures & Bottles)  
Continental Can Co. (Tin Cans)  
General Can Co. (Tin Cans)  
Hinde & Dauch (Corrugated Fibre Products)  
Maryland Glass Corp. (Bottles)  
National Can Co. (Tin Cans)  
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

### DEODORIZING BLOCK HOLDERS

Cin-Made Corp. (Paper)  
Clifton Chemical Co.  
Eagle Soap Corp.  
Fuld Bros.  
Palmer Products, Inc.

### ESSENTIAL OILS

Aromatic Products, Inc.  
Compagnie Parento  
Dodge & Olcott Co.  
P. R. Dreyer, Inc.  
Felton Chemical Co.  
Charles Fischbeck & Co.  
Fritzsche Brothers, Inc.  
Leghorn Trading Co.  
Magnus, Mabee & Reynard, Inc.  
Norda Essential Oil & Chemical Co.  
Orbis Products Corp.  
Schimmel & Co.  
A. M. Todd Co.  
Ungerer & Co.  
Van Ameringen-Haebler, Inc.

(Continued on page 130)



# PROFESSIONAL DIRECTORY

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# RAW MATERIAL AND EQUIPMENT GUIDE

(Continued from page 128)

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 132, for page numbers, "Say you saw it in SOAP."

## MACHINERY

Battle Creek Wrapping Machine Co. (Packaging Machinery)  
Ertel Engineering Corp. (Filters, Mixers, Bottle Fillers)  
Anthony J. Fries (Soap Dies)  
Houchin Machinery Co. (Soap Machinery)  
Huber Machine Co. (Soap Machinery)  
International Nickel Co. (Monel Metal)  
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)  
Mixing Equipment Co. (Mixers)  
Package Machinery Co. (Packaging)  
Proctor & Schwartz (Dryers)  
C. G. Sargent's Sons Corp. (Dryers)  
Stokes & Smith Co. (Packing Machinery)

P. R. Dreyer, Inc.  
Felton Chemical Corp.  
Charles Fischbeck & Co.  
Fritzsche Brothers, Inc.  
Givaudan-Delawanna, Inc.  
Magnus, Mabey & Reynard, Inc.  
Norda Essential Oil & Chemical Co.  
Orbis Products Corp.  
Schimmel & Co.  
Ungerer & Co.  
Van Ameringen-Haebler, Inc.

## MACHINERY, USED

Consolidated Products Co.  
Newman Tallow & Soap Machinery Co.  
Stein-Brill Co.

## MISCELLANEOUS

American Colloid Co. (Bentonite)  
Anchor Cap & Closure Corp. (Metal Caps)  
T. G. Cooper & Co. (Waxes)  
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)  
General Chemical Co. (Fluorides)  
General Naval Stores Co. (Pine Oil-Rosin)  
Hercules Powder Co. (Pine Oil and Rosin)  
Industrial Chemical Sales Co. (Decol. carbon, Chalk)  
Innis, Speiden & Co. (Fumigants and Waxes)  
Murray & Nickell Mfg. Co. (Moth Proofing Liquid)  
Pylam Products Co. (Lathering Agent)  
Rohm & Haas Co. (Insecticide Base)

## OILS AND FATS

Balfour, Guthrie & Co.  
T. G. Cooper & Co.  
Eastern Industries  
Independent Mfg. Co.  
Industrial Chemical Sales Co.  
Leghorn Trading Co.  
Michel Export Co.  
Murray Oil Products Co.  
Newman Tallow & Soap Machinery Co.  
Orbis Products Corp. (Stearic Acid)  
Wecoline Products Co.  
Welch, Holme & Clark Co.

## PARADICHLORBENZENE

Dow Chemical Co.  
E. I. du Pont de Nemours & Co.  
Hooker Electrochemical Co.  
Monsanto Chemical Co.  
Niagara Alkali Co.  
Solvay Sales Corp.  
Jos. Turner & Co.

## PERFUMING COMPOUNDS

Aromatic Products, Inc.  
Compagnie Parento  
Dodge & Olcott Co.

## PETROLEUM PRODUCTS

Atlantic Mfg. Co.  
O'Connor & Kremp  
Sherwood Petroleum Co.  
L. Sonneborn Sons.

## PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract,  
Derris Products

S. B. Penick & Co.  
R. J. Prentiss & Co.  
McCormick & Co.  
McLaughlin, Gormley, King Co.  
John Powell & Co.  
Sherwood Petroleum Co.

## SOAP DISPENSERS

Clifton Chemical Co.  
Eagle Soap Corp.  
Fuld Bros.  
Palmer Products

## SODIUM SILICATE

General Chemical Co.  
Grasselli Chemical Co.  
Mechling Bros. Chemical Co.  
Philadelphia Quartz Co.  
Standard Silicate Co.

## SPRAYERS

Breuer Electric Mfg. Co.  
Dobbins Mfg. Co.  
Fumeral Co.  
Getz Exterminators  
Hudson Mfg. Co.  
Lowell Sprayer Co.

## TRI SODIUM PHOSPHATE

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Grasselli Chemical Co.  
Monsanto Chemical Works  
Victor Chemical Works  
Warner Chemical Co.

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## BOOKS

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**Pyrethrum Flowers**, by Gnadinger. A complete compilation of all known facts on pyrethrum; its history, sources, evaluation, chemistry and uses. The problems involved in the manufacture of pyrethrum products are given thorough and lucid exposition. 270 pages, \$3.50.

**Soaps and Proteins**, Their Colloid Chemistry in Theory and Practice, by Fischer. 272 pages, \$4.00.

**"Soap"**. Bound volumes for years 1927-28 and 1935 available at \$12.00 each.

**Soaps**, by Hurst. A practical manual of soap manufacture. 440 pages, \$8.50.

**Soap Blue Book**. A Buyer's Guide, Catalog and Business and Technical Reference Book. 195 pages, \$1.00.

**Spray Process for Soap Powders**, by Thomas. Full discussion of latest manufacturing processes. 72 pages, in German, \$1.50.

**Vegetable Fats and Oils**, by George S. Jamieson. 444 pages. An American Chemical Society Monograph. Covering classification, occurrence, properties, analytical methods, etc., of vegetable oils, fatty acid and other derivatives; also production and refining methods, \$6.50.

**Chemistry of Laundry Materials**, by D. N. Jackman. A new book for the laundry operator, containing valuable information on the chemistry of laundry materials. Discusses alkalies, soaps, bleaches, starches, also the newer detergents, synthetic soaps, etc. 230 pages, \$2.50.

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### Stabilize Wax Emulsions

Wax emulsions such as polishes and cleaning compositions are stabilized as regards color and appearance by adding during or after their preparation a colorless substance liberating oxygen easily, such as peroxides, persalts, alkali salts of nitrobenzoic, nitrophthalic or nitrobenzenesulfonic acid. I. G. Farben. A.-G. French Patent No. 784,614.

### Chinese Insecticide Plant

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A disinfecting agent consists of an addition compound of formic acid with an alkali metal salt of formic acid. I. G. Farbenindustrie A.-G. Canadian Patent No. 355,049.

Germany has increased its import duty on cleaning or polishing preparations from 10 marks to 14 marks per 100 kilos.

